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in the British Empire.

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## AMERICAN BUSINESS.

OUR annual issue to the best business houses in the wholesale and retail drug-trade of Canada, the United States, Mexico, and West Indies will be on May 23. It will be a good number to make an exceptional advertisement display in, and we ask all our regular advertisers to make a note of the date—May 23. Space should be secured from the publisher long before that, of course. The number is an excellent business one, and, being addressed to those who are Great Britain's best customers, telling advertisements should bring in a quick response.

## PHARMACEUTICAL COUNCIL ELECTION.

NAME on a postcard whom you think will be the first three and the last three candidates on the poll. A guinea for the prophet who gets nearest to the actual result. In the event of more than one correct vaticination, the Editor may divide or duplicate the prize as he thinks fit. Cards must be sent in before May 18.

The names of the candidates are:—Armitage, Bateson, Campkin, Carteighe, Corder, Cross, Gostling, Harrison, Hills, Johnston, Martindale, Newsholme, Park, Savory, Storrar, Symes, Warren, Wills.

## Summary.

THE British Pharmaceutical Conference needs more members (p. 618).

A PRESTON chemist has paid a 20*l.* fine for acting as an apothecary (p. 626).

AN anti-cutting meeting at South Kensington has been held this week (p. 630).

THE oldest pharmacy in the world was founded in 1318. So says Mr. Hebbeler on p. 614.

MR. F. SMITH has been telling Birmingham assistants all about the spectroscope (p. 624).

MORE active principles have been added to the list of Indian-hemp constituents (p. 624).

MR. MICHAEL CONROY thinks that B.P. ideas about cream of tartar should be altered (p. 622).

MR. CORONER HICKS appears to have given up hope of carbolic acid ever being scheduled (p. 618).

THERE is poor malt extract in the market, so Mr. Conroy tells how to test it (p. 622). See also p. 636.

MR. BROWN, of Dover, caps our revelations regarding Egyptian trade with more depressing figures (p. 613).

MR. J. C. UMNEY does not think that Mr. Garnett's method of determining citral is a workable process (p. 644).

THE names of those who passed the pharmaceutical First examination in Great Britain last month are printed on p. 621.

MR. COMMISSIONER KERR has spoken some plain common sense regarding the supply of artificial teeth (p. 625).

THE Imperial Institute has secured the Cookery Exhibition, in which there are some things of pharmaceutical interest (p. 628).

WE give portraits of five of the Pharmaceutical Council candidates, and the views of all the six new aspirants (p. 633).

THE difference between straw and other fibres, a new test for cobalt, and malic ethers were the topics discussed at the Chemical Society last week (p. 623).

THE Inland Revenue authorities, with the assistance of the Prime Minister's son, have failed to convince the Queen's Bench that Ludovic's pine-tar soap should be stamped (p. 626).

AT the Newry Quarter Sessions the Judge reluctantly confirmed the decision of the Magistrates fining a dealer in two penalties—one for keeping open shop for the sale of poisons, and another for selling the poison under the Irish Pharmacy Act (p. 626).

THE Pharmaceutical Society have prosecuted Boots' Pure Drug Company, under the Companies Act, for not having the full title of the company on the outside of the premises. The defendants admitted a technical offence, and were fined 20*s.* and costs, the application of the Society for a share of the fine being refused (p. 625).

A NORTH LONDON chemist has been fined, under the Sale of Food and Drugs Act, for supplying a mixture from a prescription, in which 1 gr. of tartarated antimony had been left out. A woman keeping a chemist's shop in the same neighbourhood supplied the same mixture, and the analyst said she only gave  $\frac{3}{4}$  gr. of tartarated antimony; but the Magistrate ordered the other samples to be sent to Somerset House (p. 627).

A NUMBER of dealers in mineral waters at Lyons combined to maintain prices and to prevent the supply of these to other dealers who wished to "cut." The French Courts have found this conduct illegal, and the "combine" have had to pay a fine of 4*l.* and damages 400*l.* (p. 620). Mr. Glyn-Jones stated at the Kensington anti-cutting meeting this week that counsel's opinion in regard to their scheme was favourable, and that they could commence to work (p. 630).





## English News

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### Guy's Hospital

is at present making a special appeal for funds for re-endowment, and the treasurer acknowledges a donation of 100 guineas towards the fund from the Liebig's Extract of Meat Company (Limited).

### The Hayle Licensing Case.

In a recent issue we reported a prosecution instituted by the Board of Inland Revenue against Mr. Wm. Blewett, chemist and druggist, Hayle, for selling a bottle of brandy without a licence. At the sitting of the East Penwith Justices on April 21, Mr. L. H. Thomas informed the Bench that Mr. Blewett had received an intimation from the Board stating that they were prepared to grant a fresh Excise licence if the Magistrates would allow the present certificate to continue. The Chairman of the Bench (Mr. D. W. Bain) said the Bench were not prepared that day to upset the decision of the larger Bench that convicted, as it would scarcely be courteous. They recommended Mr. Thomas to apply again after the Magistrates had had the opportunity of consulting their colleagues. They did not say they would not accede to the request.

### Manchester Drug-contract.

At the fortnightly meeting of the Manchester Board of Guardians it was announced that tenders for the supply of drugs to the workhouse for the ensuing twelve months had been advertised for, and, the tenders having been examined, it was found that the lowest was that of Messrs. Oldfield, Pattinson & Co., of Lancaster Avenue. It was agreed that that tender should be accepted. The amount of the tender was 624*l.* Two other tenders had been received, the amounts respectively being 632*l.* and 635*l.* Several members commented on the closeness of the three figures, remarking it indicated that the tendering had been done in a straight way. One member said he wished that all tenders received by the Board were as satisfactory from that point of view.

### Veterinary Counter-practice.

Mr. James Farmer, chemist and druggist, Burrough Street, Castle Donington, had a visit from a bullock one day last week. The animal successfully negotiated the counter and got to the residential quarter of the premises, but Mr. Farmer managed to get rid of his visitor before much damage was done.

### "Household Purifier."

Mr. Braxton Hicks held an inquest at Battersea on Saturday regarding the death of Sarah Morley, aged 49 years, wife of a builder's labourer. The husband stated that she had several times threatened to commit suicide. He had ascertained that on Wednesday afternoon last week she went to an oilshop in the York Road and purchased some carbolic acid. When he returned home from work in the evening he found deceased lying unconscious on the floor, and an empty glass, which had contained carbolic acid, on the table. Dr. Wm. Robinson said when he was called to deceased she was in a state of coma. He used all the usual remedies, but without avail. Death ensued from carbolic-acid poisoning. The acid deceased had drunk was the crude acid, known as "commercial." The Coroner: I don't think I need say anything about the sale of carbolic acid, as there is no act to prevent an oilman selling it. It is not a scheduled poison, although every effort has been made to include it in the list. The Coroners' Society have worked very hard to this end. The manager to Mr. Kelly, oilman, of York Road, Battersea, said he sold the deceased some 'household purifier' on the day in question. It was the

same as the little left in the bottle. She said she wanted it for cleaning the floors. The Coroner reminded the witness that the purifier was no more or less than crude carbolic acid. He asked the witness to help him and place a poison-label on all such poisons sold, which would probably prevent many unfortunate accidents. The jury endorsed the Coroner's remarks in returning their verdict.

### A Narrow Escape.

William George Yates (20), a chemist's assistant, of 45 Walton Street, South Kensington, while in his employer's shop in the Brompton Road on Saturday, took strychnine which had been left in a glass by mistake, when serving himself with a tonic-mixture. He was quickly conveyed to St. George's Hospital, where the stomach-pump was used in time to save his life.

### Selling Intoxicants without a Licence.

At West Riding Police Court, Halifax, on April 18, Mr. Jabez Swire, druggist, King Cross, was summoned for selling intoxicants without a licence at Sowerby Bridge. Mr. Swire was the executor of the late Mr. F. Walton, druggist, Sowerby Bridge, who held an off-licence, and had not got a transfer of the licence prior to carrying on the business. A fine of 20*s.* and costs was imposed.

### Trap accident to a Sheffield Chemist.

Mr. Thomas Strain, chemist and druggist, of Allen Street, Sheffield, was on Sunday last seriously injured while out driving with his wife in a pony-carriage. When the pony was passing over some granite sets in Meadow Street it slipped and fell, Mr. and Mrs. Strain being thrown out. The former was badly hurt on the right shoulder, on the wrists, and about the face. Mrs. Strain escaped with a severe shaking.

### Fires.

Early on Saturday morning last a fire was discovered on the premises of Messrs. Shaw & Co., chemists, Market Place, Doncaster. It was got under before great damage was done.

There was a fire at Messrs. Jones & Hanbury's pharmacy 6 South Street, Manchester Square, W., on Wednesday evening.

### British Pharmaceutical Conference.

A meeting of the Executive Committee was held at 16 Bloomsbury Square on April 22. Present:—Mr. Martindale (President), Mr. Moss (Treasurer), Messrs. Bird, Farr, and Holmes, with Messrs. Naylor and Ransom (Hon. Gen. Secretaries), Mr. Nightingale (Assistant Secretary). Letters were sent by Messrs. Atkins, Martin, Ewing, Conroy, Coull, Wells, and Smith regretting their inability to be present. The senior Honorary Secretary was requested to communicate with each member of the Executive, asking for suggestions relative to additions or alterations in the Blue List, and having adopted such as might seem desirable to issue the list to members. Mr. Naylor reported that since the last meeting of the Executive the Publication Committee had met and had considered by what means the cost of the production of the "Year-book" might be reduced. Tenders for printing had been submitted by London firms and a provincial house, and that of Messrs. Butler & Tanner had been accepted. Certain alterations, mainly editorial and sectional, connected with future issues of the annual volume had been discussed and agreed upon. The Secretaries reported that, in accordance with instructions given at the last meeting of the Executive, they had conferred with the local committee as to the date of the Liverpool meeting, and that it had been decided that business should commence on Tuesday, July 28, the reception being held the previous evening. Some discussion ensued as to the best methods to be adopted for increasing the membership, and the hope was expressed that considerable additions would be obtained from the populous district in which the meeting is to be held this year. Thirteen gentlemen, having been duly nominated, were elected to membership.

### Brewer v. Chemist.

Mr. Alfred Higgs, chemist, Richmond Road, Kingston-on-Thames, owns a freehold villa in that road, and next to it is the "Grey Horse," an inn owned by Messrs. Young & Co., brewers, Wandsworth. Last year Mr. Higgs, to improve his



property, pulled down a wall which bounded the garden of his villa. Messrs. Young protested against his taking this liberty, claiming that the wall was theirs, or if not, was at any rate a party wall. No terms could be arranged, and a week ago the dispute came before Mr. Justice Wills, in the Queen's Bench Division, Q.C.'s being engaged on each side. Mr. Higgs was able to produce a witness, 72 years of age, who remembered the building of the wall in 1836, his father having been a workman engaged on the wall. At that time the "Grey Horse" was not fixed up next door. He knew that because he remembered that at the time he used to go to the "Three Fishes" to fetch beer. Other old Kingstonians also gave evidence, and ultimately Mr. Justice Wills said that Mr. Higgs had made out his case completely, and gave judgment in his favour, with costs.

#### Defalcations of a Secretary.

At the Clerkenwell Sessions, on April 27, before Sir P. H. Edlin (chairman), James Grey surrendered to his bail on an indictment charging him with having wilfully and with intent to defraud made a false entry in, and omitting certain material particulars from, books belonging to the Berkefeld Filter Company (Limited), of 121 Oxford Street, W. According to the evidence of the managing director of the company, Mr. Karl Hebbeler, prisoner had been in their service since 1892. Up to January last he was manager of the business. Since then he had held the appointment of secretary and traveller, with a salary of 200*l.* per annum. Towards the end of February the witness discovered irregularities in the books of the accused and dismissed him. The deficiencies in the accounts amounted to 99*l.* 10*s.* 3*d.* Before the completion of the evidence for the prosecution the prisoner withdrew his plea of not guilty and pleaded guilty. Other indictments of stealing and embezzling were allowed to remain on the file of the court. Prior to the committal of the offence Grey had borne an irreproachable character, and, taking this into consideration, the Chairman passed upon him a sentence of six months' imprisonment as a second-class misdemeanant.

#### The Vanished Silver.

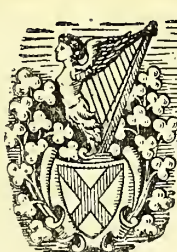
The Plymouth Magistrates were occupied on Saturday last in hearing a case in which Mr. J. G. Netting, chemist, of the North Road, charged two boys with stealing 10*s.* from his till. On Thursday evening one of the lads purchased some salts at the shop, and asked Mr. Netting to change six half-pennies into silver, which was done. Leaving the shop for a few minutes, Mr. Netting returned to find the till hanging out and the silver completely vanished. He questioned his errand-boy, who had been dusting outside the shop, and he stated that one of the boys had again entered the shop to inquire about the price of sherbet; he did not know his master was absent. On being charged and searched no money was found on the boys, and the case was dismissed on the ground of insufficient evidence.

#### Dispensing at Exeter Workhouse.

At the weekly meeting of the Exeter Corporation of the Poor, on Tuesday last, the resolution passed by the committee on March 3 last (see THE CHEMIST AND DRUGGIST of March 7) "That if the medical officer requires assistance in dispensing the duties should be performed by a person from outside the workhouse, and not by nurses," was, on the motion of Mrs. Chorley, rescinded, and the matter left in the hands of the medical officer.

**BE CAREFUL OF SODA-WATER!**—Mark Twain has been giving a lecture on soda-water. He said that he could not recommend it—as a steady drink. After drinking thirty-eight bottles he found himself full of gas and as tight as a balloon. He had only one article of clothing left that he could wear, and that was his umbrella.

**A PROPHECY.**—"Only give us time, gentlemen of Germany and Great Britain. What we have of educational facilities in pharmacy has been secured within fifty years past; at the end of a century you may come to us to learn." Thus the *Pharmaceutical Era* of New York. But should not the *Era* remember that America started with the benefit of all our experiences?



# Irish News

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#### Personal.

Dr. R. A. C. Burres, pharmacist, has been elected churchwarden of St. Paul's Parish, Dublin.

Mr. C. Mannin, L.P.S.I., has been elected a vestryman of the Mission Church, Townsend Street, Dublin.

Mr. Bernard, M.C.P.S.I., has been the victim of a carriage accident, sustaining fracture of his left arm. He is doing well.

Mr. Alfred J. Barnes, Vance's Medical Hall, Charlemont Street, Dublin, has passed the first professional examination of the conjoint medical licensing bodies in Ireland.

Mr. John Darcy, chemist and druggist, South Circular Road, Dublin, has left the country. His premises, stock-in-trade, &c., are to be sold by order of the Court of Bankruptcy in Ireland.

Dr. Philip Flood, L.P.S.I., was entertained in Maple's Hotel, Dublin, a few evenings ago by a number of friends and former colleagues to dinner previous to his departure for London, where he is about to set up in medical practice.

Dr. Murphy, apothecary, Dublin, met with an accident in Grafton Street on Friday last. He was driving towards the city, and in trying to avoid a collision with a reckless cyclist his carriage upset. Dr. Murphy was thrown out of the vehicle and badly shaken.

#### Strike in the Chemical-trade.

The employes of the chemical-firm of Messrs. Goulding & Co., Cork, to the number of sixty, have struck work over the dismissal of eight of their number. Up to the present a settlement of the dispute has not been made.

#### Charge of Selling Methylated Spirit for Finish.

In the Southern Divisional Police Court, Dublin, on Wednesday, Mr. John Gerrard, chemist and druggist, Annesley Place, was summoned by the Inland Revenue authorities for selling methylated spirit without a licence. Mr. Jolliffe, solicitor, appeared for the Excise authorities. Patrick Hande deposed that early in February last he visited the defendant's shop and asked for methylated spirit. The defendant said that the only methylated spirit which he sold was "finish," a mixture of gum-resin and methylated spirit. A week later witness, accompanied by Mr. Byrne, an officer of Excise, went to defendant's shop and asked for a noggin of "finish." Mr. Gerrard himself served it out. Witness handed the stuff to Mr. Byrne, who deposed that he divided the contents of the bottle into three parts. He gave one to the defendant, sent the second to Somerset House, London, for analysis, and kept the third part himself. Mr. Holmes, analyst in the Government Laboratory, Somerset House, stated that the sample forwarded contained methylated spirit prepared for sale. It was devoid of gum-resin. The defendant said he had bought the stuff as "finish" from Hayes's establishment, Grafton Street, Dublin, and sold it as he bought it. The defendant having asked permission to get the sample left with him analysed, the case was adjourned for a week.

#### Pharmaceutical Chemists' and Apothecaries' Assistants' Association of Ireland.

At the meeting of this Association held on April 24, Mr. T. J. Walsb, L.P.S.I., in the chair, some dispensing matters were discussed. The dispensing of croton and chloral by means of hot water and cold spirit respectively was spoken of by Mr. Hagarty. Dealing with pearl-coating of pills by hand, Mr. Payne described the recognised method, which



ensured results equal to the machine-made article. The pill, when rolled, should be lightly coated with varnish, then dipped in French chalk, and rubbed with waxed paper spread over the fingers. The insolubility of varnish was pointed out by Mr. Hardy, who advocated coating the pill with a thin solution of gum and powdered white sugar. Mr. O'Sullivan believed the gastric juices of the body were sufficiently powerful to dissolve the varnish. If a speedy result was desired from the pills the doctor would hardly prescribe the coated quality. Mr. Hunt had known cases where upwards of two days elapsed before the pills acted. He was not in favour of the general use of coated pills. A discussion on plaster-spreading and the ethics of pharmaceutical etiquette followed.



## Scotch News

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### A New "Nip."

A correspondent who has been travelling a good deal through Scotland this spring states that a large number of persons who are accustomed to take a "nip" with their customers now habitually drink quinine wine, which is kept on draught in all the public-houses, and sold at the same price as whisky, rum, brandy, &c. It is probably the low price of the sulphate that has brought about this extensive sale of quinine wine.

### Ninety-four Drug athletes in Edinburgh.

The fifth annual general meeting of the Edinburgh Pharmacy Athletic Club was held, on April 24, in the Pharmaceutical Society's House, Edinburgh. The secretary reported that the membership of the club now stood at 94. The treasurer reported that notwithstanding an expenditure of 102*l.* the club was sound financially. The following officers were elected:—Hon. President, Mr. D. Mackenzie; President, J. Broun; Vice-President, J. McBain; Hon. Sec., J. P. Gibb, 8 Cobden Crescent, Newington; Assist.-Sec., A. G. Paterson; Treasurer, A. S. Bernie; Committee: T. Somerville, R. K. Kinninmont, J. Stott, T. D. Burt, G. F. Anderson, J. D. Sinclair, and H. France.

The golfing section of the club held their monthly competition on the Braids for the "Dick Haudicap Challenge Medal" on Friday and Saturday last, when over thirty members competed. Mr. George Lunan was the winner with the score of 101 less 10 = 91.

### Defining the Duties.

In Mr. William Allan's pharmacy, in Dumfries, a system is adopted of dividing and defining the duties of the apprentices and assistant which must save a good deal of friction, and which may be recommended to other pharmacists whose staff corresponds in some degree with that of Mr. Allan. Mr. Allan keeps three apprentices and one assistant, and he has had printed a detailed statement of the regular duties allotted to each, the parts of the shop each has to dust, the special goods each has to put up, or the stock of which he has to look after. This arrangement of the work requires a good deal of experience, but, if judiciously allotted, it is likely to encourage a sense of responsibility for certain duties which cannot be too early inculcated. We have no authority for promising it, but we expect that where it might be useful Mr. Allan would have no objection to send a copy of his regulations; but we would suggest that anyone who might ask for this favour should be considerate enough to enclose a stamped and addressed envelope.

### Botanical Excursions.

The Edinburgh Chemists', Assistants', and Apprentices' Association committee have arranged the following evening

excursions:—June 5, to Blackford Hill, conducted by Mr. W. B. Cowie; June 19, to Colinton Dell, conducted by Mr. W. Duncan; and July 17, to Craigerook Quarry, conducted by Mr. J. R. Hill. The committee have also arranged summer meetings to be held in the Pharmaceutical Society's rooms, 36 York Place, on May 8, June 12, and July 15. A book prize will be presented to the apprentice member who writes the best report on the excursions and demonstrations.

## French News.

*(From our Paris Correspondent.)*

"LA PHARMACIE LABORIEUSE" is a new monthly periodical issued by the Paris Association of Pharmacists' Assistants. It is a small double sheet, brightly edited, and with a decided democratic tendency.

AT THE PARIS ACADEMY OF SCIENCES last Monday, M. Grimaux, Professor of Chemistry at the Ecole Polytechnique, presented a copy of the new edition of his book "Lavoisier, 1743-1794." M. Cornu read a paper by MM. Parenty and Richard, concerning a new apparatus in use in the State manufactories for giving a regular temperature automatically. Several further papers on the Röntgen rays were read, including one by M. le Roux, Professor at the School of Pharmacy.

"LES MÉMOIRES D'UN AIDE MAJOR" is the title of a book just published by Flammarion. It relates the souvenirs of a French pharmacist who was attached to the Grand Army during the Peninsula War. The book is interesting, and contains a preface by M. Napoléon Ney. Military pharmacists have formed part of the organisation of the French army ever since the introduction of field hospitals. The great Parmentier, whose statue is in front of the Paris School of Pharmacy, was long attached to the army, and wore a uniform the greater part of his life. The plague decimated Napoleon I.'s pharmacists during the Syrian campaign, and fully half a dozen succumbed during the Crimean War.

A MINERAL-WATER SYNDICATE.—An interesting action was tried a few days ago at Lyons concerning the legality of a trade syndicate formed for the purpose of keeping up prices. A syndicate was started at Lyons in 1891, under the terms of the law of 1884. It included in its membership the majority of the dealers in mineral water in that town, who are for the most part pharmacists. The object of the Syndicate was to fix the price of all mineral waters and to gain a monopoly. In order to secure this result the members contracted with the proprietors of the various sources for the sole supply of their waters, and in this way kept out of the market those dealers who declined to join the combination. The latter brought an action against the Syndicate. The Court ordered an inquiry to be made showing what the increase in price had been as a result of the arrangement, as well as the prejudice suffered by the plaintiffs, and, in giving judgment with this evidence in hand, decided that the law of 1884 does not give any combination of traders in France the right to maintain prices artificially. Consequently the Syndicate was ordered to pay a fine of 100*fr.* (4*l.*) and 10,000*fr.* (400*l.*) damages to the plaintiffs. It has taken three years to obtain this final verdict, which throws a fresh obstacle in the way of the long-cherished projects of the General Association of French Pharmacists for forming a combination with a view to keeping up the prices of pharmaceutical specialities. Indeed, it seems that the existing state of the law in France is in favour of the "cutters."

THERE is a trading firm at Hyderabad which advertises itself prominently in the local papers as "chemists and druggists, breeches-makers, tailors and outfitters," by special appointment to H.H. the Nizam. We wonder whether chemists' assistants accepting situations in Hyderabad are expected to show themselves proficient in measuring the Nizam for a new pair of breeches, as well as in dispensing H.H.'s medicines?



## Foreign and Colonial News.

**A GERMAN CHEMICAL-FACTORY BURNED DOWN.**—The chemical-works of Dietsch, Kellner & Co., at Griesheim, have been completely destroyed by fire. The amount of the damage is not yet ascertained.

**BACTERIOLOGICAL LABORATORY AT GENEVA.**—The municipal authorities of Geneva have just caused to be fitted up a bacteriological laboratory, containing, among other appliances, a large sterilising oven, with twenty galvanised-iron cages for experimental animals. The cost of the laboratory is about 250%, and its maintenance will entail an annual outlay of 300%.

**THE FRENCH DUTY ON CAMPHOR.**—Suggestions for the increase in the import-duty upon refined camphor from 7.50f. to 40f. per 100 kilos, having recently been before the French Government, the Paris Chamber of Commerce has protested against any such increase, pointing out that the present duty is sufficiently high to protect the French refiners; that the importation of refined camphor from abroad is growing smaller every year; and that the exports have increased by 20,000 kilos. during the year.

**AMERICAN ESSENTIAL-OIL FIRMS AT LAW.**—An action for libel, in which \$50,000 damages was claimed, has recently been brought by the Joseph C. Butler Company of New York against the firm of Fritzsche Brothers of the same city. The suit, after having been on trial before Judge Lacombe and a jury in the United States Circuit Court for several days, suddenly came to an end by a dismissal of the plaintiff's complaint. The suit was based on the character of the literature sent out by the defendants in regard to the quality of vaniline crystals.

**A SINGAPORE PHARMACIST IN TROUBLE.**—A few weeks ago 162 bottles of morphia, valued at about \$1000, were seized by the police at the Singapore Dispensary, Raffles Place, Singapore, and the manager of the business, Mr. J. Mackenzie, was arrested and brought before the Magistrates on a charge of unlawfully dealing with morphia, to the value of \$976.50, contrary to the opium ordinance of 1894. The hearing of the case was postponed, the defendant being allowed bail in the sum of \$500. The charge, it is understood, is made at the instance of the opium farmer of Singapore, by whom it is alleged that the defendant sold a quantity of the morphia in contravention of the law which prohibits the sale of opium or opium-alkaloids for purposes of "chewing, swallowing, or inhaling" excepting upon a medical prescription or for use in ships' medicine-chests.

## Pharmaceutical First Examination.

### RESULTS FOR APRIL.

WE have received from the Registrar of the Pharmaceutical Society of Great Britain the following list of candidates who were successful at the First examination held on April 14, 1896.

Ainslie, John, Galashiels  
 Alcock, Robert Frank Southampton  
 Alexander, Isabella, Banff  
 Anderson, James A., Lockerbie  
 Archer, William Taylor, Cambridge  
 Atkins, George David, Heaton  
 Bailey, Arthur Joseph, Birmingham  
 Bailey, Thomas H., Bournemouth  
 Baines, Richard, Lancaster  
 Barnes, Ernest Edward, Hackney  
 Barry, Robert Allan, Ayr  
 Beardsley, Cyril, Belper  
 Bentley, Henry Percy, Bradford  
 Blunt, John Henry, Northampton  
 Braggins, Albert Edwin, Banbury  
 Bussey, James Edward, Wareham  
 Butterworth, Ernest, Rochdale  
 Caesar, Henry Wilkin, Dumfries  
 Cairns, Thomas, Alnwick  
 Caithness, Augustus, Liverpool

Campbell, George, Penrith  
 Carson, Robert William, Bradford  
 Church, William Elsey, Batley  
 Clarke, Herbert R., Nottingham  
 Clarke, Thomas John, Tonbridge  
 Clarke, William J., Stockton-on-Tees  
 Clelland, Robert Henry, Belfast  
 Coles, Charles Avery, Reading  
 Collins, Joseph Henry, Falmouth  
 Cook, James Booker, Banff  
 Corke, Harry Malcolm, Woolton  
 Cornish, Archibald F., Taunton  
 Cox, Horace Nelson, Edinburgh  
 Crossley, Arthur, Gorton  
 Darroll, Horace Henry, Clun  
 Davies, Henry Charles, Croydon  
 Davison, Henry Spours, Gateshead  
 Daykin, Albert Ernest S., Ripley  
 Derman, Thomas John, Bath  
 Dewar, A. Owen Cameron, Cupar

Duncan, Charles, Dundee  
 Elliott, Bertie T. J., Newport, Mon.  
 Elms, Henry, Hornsey  
 England, Thomas, Scarborough  
 Ewart, Samuel, Crofton  
 Farrow, Leslie John, Lowestoft  
 Fewtrell, Patrick Roy, Turriff  
 Findlay, Adam, Aberdeen  
 Finnis, Sydney, Dover  
 Fisher, William Edgar, Camberwell  
 Futti, Alfred, Scarborough  
 Garner, S. R., Newark-on-Trent  
 Gartside, William, Oldham  
 Gellately, James Blair, Dundee  
 Gill, Henry John Turton, Brighouse  
 Gittings, Arthur Henry, Bilston  
 Giholm, William, Jarro  
 Gooch, James B., East Dereham  
 Gordon, John R. C., Frickeheim  
 Graham, Margaret T., Lochgelly  
 Granger, Ernest R., Whitby  
 Griffith, Robert William, Portmadoc  
 Griffiths, Thomas, Carmarthen  
 Hadfield, James Ernest, Buxton  
 Hall, Henry, Cardiff  
 Hammond, Albert, Bollington  
 Harrison, Clement, Caversham  
 Heald, Gerard, Heckington  
 Hellwell, Hubert W., Bradford  
 Henderson, John McGregor, Ayr  
 Hewitt, Joseph, York  
 Hibbert, Arthur Byron, Chester  
 Hocking, Samuel John, Redruth  
 Holden, Wilfred C., Southampton  
 Hopkins, Cyril John, Towcester  
 Howell, Thomas Henry, Norwich  
 Howell, James Bonnell, Llanelli  
 Howell, Taliesin T., Llanblethian  
 Hughes, Ernest E., Altrincham  
 Hull, Edward Frank, Croydon  
 Hume, George, Gatehouse  
 Humphreys, Sidney, London  
 Hunt, Frederick, Chichester  
 Innes, John L., Dumbarton  
 James, Edmund, Kidderminster  
 James, Lewis August, Ruthin  
 Jolly, William Isaac, Bradford  
 Jones, John William, Plymouth  
 Jones, Wm. Brittain, Brynmawr  
 Jones, Wm. Richard, Bangor  
 Kendrick, Robert E., Wrexham  
 Kitching, George C., Morecambe  
 Klein, Frederick, Carlisle  
 Lemmon, Reginald J., Chichester  
 Lewis, Thomas Ed., Banks, Grimsby  
 Lewellyn, Thomas, Oswestry  
 Lloyd, Robert E., Portmadoc  
 Loney, Sidney Thomas, Eltham  
 Lord, William, Bury  
 McCallister, William, Bolton  
 McCreath, William Fletcher, Leven  
 McDougall, Duncan, Campbelltown  
 McGeorge, Richard, Edinburgh  
 McGuffie, David, Stranraer  
 McIntyre, George, Ellesmere  
 Macintosh, John, Brechin  
 Mackay, James D., Leith

McRobb, William, Lochleask  
 Male, Charles Edgar, Cottenham  
 Mann, John, Alness  
 Manson, John, Glasgow  
 Martin, Harry, Aylesbury  
 Martin, John Muir, Sunderland  
 Masterton, Wm. David, Brechin  
 Mathers, Ernest Thos., Cambridge  
 Moffatt, Wm. John, Dumfries  
 Mogford, Fredk. Thos., Tiverton  
 Mogg, Ernest H., Wells (Som.)  
 Moore, John Wm., Wighton  
 Mortimer, Harold, Cleckheaton  
 Morton, Wm. Jas., Newton Stewart  
 Muir, John, Laurieston  
 Murray, Alexander, Aberdeen  
 Nichol'son, Thos. Brightmore, Hanley  
 Oliver, John James, Liverpool  
 Oswald, John Seath, Kinghorn  
 Otter, Wilfred, Otley  
 Parsons, Maurice James, York  
 Pearce, Stanley L., Tavistock  
 Perkins, Francis G., Hammersmith  
 Petrie, William Peddie, Dundee  
 Porter, Frank, Leicester  
 Powell, Charles W., Middlesborough  
 Priestley, George Edward, Paisley  
 Prosser, Thomas William, Oxford  
 Rapson, Florence Helena, Bangay  
 Rayner, George L., Cranswick  
 Reavley, Robert, Jarrow-on-Tyne  
 Redfern, Harry Chaplin, Leek  
 Rennard, Herbert, Leeds  
 Richardson, Herbert Stanley, Hull  
 Richardson, Joseph, Louth  
 Ripley, John H., Berkhamstead  
 Robertson, Bessie B., Markinch  
 Russell, William, Leith  
 Scott, William, Newcastle-on-Tyne  
 Sharp, Jeremiah, Drumburgh  
 Shelley, George A. H., Southwark  
 Shepperd, Henry George, Penzance  
 Smith, Frank, Downham Market  
 Smith, Robert Harman, Chelmsford  
 Starmer, Geo. F., Tunbridge Wells  
 Stiles, Percy C. G., St. Ives (Hunts)  
 Stopforth, William Henry, Wigan  
 Storey, Richard, Ulverston  
 Swaby, Harry Coupland, Lincoln  
 Swinnerton, George, Hanley  
 Tait, Joseph, Edinburgh  
 Thomson, Robert B., Thornhill  
 Thornhill, H. John, Gosforth  
 Turnbull, William, Grangemouth  
 Turner, George, Longton  
 Warrington, F. E., Leamington  
 Watts, Bertram Adam, Woolwich  
 Webb, W. J., Newcastle-on-Tyne  
 Whittingstall, Ernest E., Wakefield  
 Wigglesworth, William, Ingrow  
 Williamson, Andrew, Fortrose  
 Williams, David Gwilym, Tycross  
 Williams, Edward, South Petherton  
 Wilson, Alexander W., Edinburgh  
 Wilson, John A., Askam-in-Furness  
 Wood, Robert John, Driffield  
 Wright, Wm., Newcastle-on-Tyne

MR. R. H. PARKER, Maida Vale, sends us the following story as an occurrence in his pharmacy on the morning when it was written:—"Time, 7.40 A.M. Night-bell rings violently. Assistant jumps out of bed, scrambles into his clothes, rushes downstairs, opens the door to Mrs. T.'s servant, who hands in an empty medicine-bottle, and says, 'Send this over at once; Mrs. T. is going out of town soon after 8 A.M.' Assistant turns up the reference, steams away at a bismuth mixture, and has half finished, when another merry peal on the night-bell is heard; this time Mrs. T.'s friend has called. 'Have you sent that bottle over to Mrs. T. yet?' Assistant: 'Kindly step inside a moment, the medicine is half-made.' Mrs. T.'s friend: 'Oh! Mrs. T. did not want the medicine made up. She only wanted the bottle washed out, and filled up with water.'"



## Liverpool Chemists' Association.

AT the meeting held on Thursday, April 23, Mr. M. Conroy, F.C.S. (President), in the chair, Mr. Theo. H. Wardleworth exhibited a specimen of bdellium gum, which had been found largely in recent parcels of gum myrrh, of which it is a somewhat common adulterant. He also exhibited a specimen of canaigre-root (*Rumex hymenosepalum*, Linn.), which grows wild in the marshy lands of the south-east of the U.S.A. The root is being offered as a tannin material on the English market, the bulbs containing 20 to 25 per cent. of tannin. Professor Trimble, of the Philadelphia College of Pharmacy, has done much to show the advantages of canaigre. Some amusement was caused by the exhibition of a package of snuff, wrapped in palm-leaf, which had been found in a bale of senna, and which had evidently been lost while the bale was being packed.

Mr. Prosper H. Marsden exhibited a result of the application of the Röntgen rays to local surgery. A lad having shot himself in the hand with a small pistol, the surgeons of the Southern Hospital, in conjunction with Professor Oliver Lodge, had skiagraphed the hand, and although the wounded member had swelled considerably the bullet was clearly indicated, and its removal facilitated.

Mr. Harold Wyatt, jun., said that he had had some trouble recently to find, for a photographic customer, what "Schlippe's salt" was, and thought that, as perhaps other members might be asked for it, a few particulars about it might be interesting. It was to be used to restore printing density to negatives which had faded after mercurial intensification, and was to be made into a solution of 10 gr. to the pint. No mention of it was found in Watts's "Dictionary," nor in Meldola's "Chemistry,"\* so application was made to a retail dealer in photo-chemicals, from whom a packet labelled "sulphate of soda" was received, which, on examination, turned out to be sodium sulphantimonate. When treated with a dilute acid it gives off  $H_2S$ , and deposits  $Sb_2S_3$ . Its action on the photographic plate is doubtless to convert into sulphide the mercurous-ammonium chloride left after washing the plate with ammonia when withdrawn from the mercuric-chloride solution,  $Sb_2S_3$  being deposited during the process.

The Chairman then read the following note on

### CREAM OF TARTAR.

By M. Conroy, F.C.S.

In the *Pharmaceutical Journal*, April 11, Mr. C. A. Hill, in speaking on the assay of cream of tartar, recommends the direct titration-process with standard alkali, because it is far more convenient and expeditious than the ignition-process of the Pharmacopœia, and also "in order to notify the fact that the latter process is quite inaccurate, owing to the loss of potassium carbonate from reaction with calcium sulphate, which occurs in commercial cream of tartar." Mr. Hill gives examples of three samples of commercial cream of tartar, one of which contains 4.2 per cent., and another 2.46 per cent., of calcium sulphate. By the direct process recommended by Mr. Hill, the first of these samples tests 96 per cent. potassium-acid tartrate, whilst by the B.P. ignition-process the percentage found is only 84.5 per cent., this difference being due, as explained, to the loss of potassium carbonate from reaction with the 4.2 per cent. of calcium sulphate. I quite agree with the figures given by Mr. Hill, and also with his statement that the direct process is much more expeditious and convenient; but I must take exception to his statement that commercial cream of tartar contains calcium sulphate in sufficient quantity to appreciably affect the B.P. method of assay. Hundreds of samples have passed through my hands, and only in three instances have I found calcium sulphate present in quantity sufficient to effect the B.P. method, and these three samples I wish particularly to point out were from cream of tartar imported in the powdered state, and I have reason to believe they were all from the same source. In no instance have I found more than a trace of sulphate in crystallised cream of tartar. Judging

by my own experience of these facts, I think I am justified in saying that cream of tartar containing the amount of calcium sulphate found by Mr. Hill must have been wilfully adulterated, and does not represent the commercial article. There is no difficulty in obtaining cream of tartar of 98 to 99 per cent. purity, and I would recommend that the B.P. standard be raised from 92.15 per cent., at which it now stands, to at least 96 per cent. The United States Pharmacopœia requires it to be not under 99 per cent. One advantage of the B.P. ignition-method is that it excludes samples containing any appreciable quantity of calcium sulphate, but provided a qualitative test for sulphate be included in the B.P., as is done in the U.S. Pharmacopœia, it would certainly be an advantage to adopt the direct-titration method as the official test, and we cannot do better than follow on the lines laid down in the U.S. Pharmacopœia, which is as follows:—"A solution of 1.88 grammes of potassium bitartrate in 100 c.c. of hot water should require for complete neutralisation not less than 9.9 c.c. of normal potassium hydrate U.S. (each c.c. corresponding to 10 per cent. of the pure salt), phenolphthalein being used as an indicator."

Mr. T. S. Wokes said he had heard that a good deal of low-grade cream of tartar was being sold by grocers who were thus able to sell at a correspondingly lower price, to the disadvantage of the chemist.

Mr. Wardleworth said that his experience was constantly leading him to the conclusion that the test indicated in the B.P. was not sufficient in itself to check the adulteration which was undoubtedly going on. To his knowledge parcels of cream of tartar of low grade were constantly being offered and sold which might answer the B.P. test, but which were undoubtedly adulterated with acid sulphate of potash.

Mr. J. Smith quite approved of the remarks regarding the competition of grocers, but, as to the test, he thought that the B.P. process was a good one. Would it not, however, be better to have a combination of both, so as to ensure accuracy as far as possible?

Mr. R. C. Cowley remarked that in setting students to work by the charring-process he found that the sample, as a rule, was insufficiently charred, and he preferred to let them do the test by the titration-process. A cream-of-tartar substitute which he had had to analyse recently consisted of acid phosphate of calcium, a little alum, a little acid sulphate of potash, and maize starch.

Mr. Harold Wyatt, jun., also spoke in eulogistic terms of the value of the note.

Mr. Conroy also read a note on

### MALT EXTRACT.

In consequence of this article being now largely made for confectionery and other purposes quite outside the range of pharmacy, it is being offered to pharmacists at very low prices. Several samples of this kind of extract have recently come under my notice, and I have found them to be absolutely devoid of diastasic power. A peculiar and important feature about these extracts, in which the diastase has been destroyed by over-heating, is that they keep much better than extracts that have been prepared at a low temperature and of full diastasic strength. I have seen samples of this non diastasic kind twelve months old quite good and mobile, whilst samples only a few weeks old of carefully-prepared extract of full diastasic strength have become granulated and quite solid. This has been a common experience with me for some years past, and there can be little doubt that diastase in malt extract has a tendency to promote granulation. Medical men attach great importance to the diastasic value of the extract, and prescribe it in cases of weak digestion on this account quite as much as for its nutrient value in wasting-diseases. It is, therefore, of importance that pharmacists should examine the extract for diastase on account of the large quantity that is manufactured and offered containing no diastase whatever. The following simple method is a good one:—Take 10 gr. of potato-starch or arrowroot and boil in 2 oz. of water for three minutes. Cool to 110° F., and add 10 gr. of the extract to be tested dissolved in  $\frac{1}{2}$  oz. of water. Keep the solution at 100° F. until a small quantity (about 30 minims) taken out at intervals of one minute ceases to give a blue colour with

\* But see THE CHEMIST'S AND DRUGGIST'S DIARY, 1894, page 377, and 1896, page 391.—ED. C. & D.



1 drop of tincture of iodine. A good extract should not take longer than five to six minutes.

Mr. Cowley asked Mr. Conroy if he had ever tested for the maximum amount of diastase in malt extract.

Mr. J. Smith thought the standard of time was too low, as in several samples he had seen the blue colour disappear in fifteen to twenty minutes, and he would be inclined to accept the finishing rather than the first stage as the test. He further thought that the value attached to malt extract as a digestive agent was much over-estimated. It might be good as a nutrient, but it was well known that the action of diastase was promptly destroyed by the slightest addition of acid, and, as the normal condition of the stomach was acid, he failed to see wherein its value rested.

Mr. Prosper H. Marsden had found that an extract of malt of undoubted quality, which had been kept in a normal temperature of 50° to 60° F. for two or three weeks, had become quite white and solid.

Mr. T. S. Wokes asked whether the addition of hypophosphites was likely to affect the amylolytic power of the extract.

Mr. Conroy, in reply, said that he preferred the first stage of the process rather than the last, because the result was known in two or three minutes, and the second stage followed as a matter of course, and occupied about seven times longer than the first. He had not made experiments for finding the maximum amount of diastase in malt extracts. As to its employment as a digestive agent, he might say he had tried the action of many acids—tartaric, hydrochloric, citric, and others—and in each case the amylolytic power had been destroyed, and when the solutions had been neutralised it had not come back again. He had found that it was always the good extracts which went wrong, and it was the extracts which were free from diastase which went on all right for twelve or fifteen months. He had not turned his attention to the action of hypophosphites on diastase.

#### CONSULT "ALPE."

The Secretary reported that he had not communicated with Somerset House regarding the letter shown at last meeting with respect to "Brown's harmless headache-powders," as the *C. & D.* was published before he had had an opportunity of doing so. On following the editorial hint to refer to page 103 of *Alpe's* book he found that it would not be necessary to trouble either himself or the authorities, as the point was clearly explained by the authority referred to, an "entire" drug not being liable to the stamp-duty.

### Burlington House Echoes.

THERE was a fairly good programme submitted to the Fellows of the Chemical Society on Thursday evening, April 23. As it happened, the second paper was one illustrated by experiments, and though they were exceedingly simple, that did not matter in the least to the Fellows, who tried to forget that they are clever, learned, &c., while some of them for the nonce cast off the rôle of savants and enjoyed the thing. By the way, Professor Lippmann had been explaining his colour-photography method to the Royal Society in the afternoon, and there was such an animated discussion thereafter that some of the leading chemists were not able to turn up at the chemical rooms in the evening. Mr. C. F. Cross, on behalf of himself and colleagues, Messrs. E. J. Bevan and Claud Smith, gave a *résumé* of the first paper, which was on

#### THE CONSTITUTION OF CEREAL CELLULOSES.

The principal point of difference between cotton and cereal fibre is that the cellulose of the former is associated with only 0.1 per cent. of furfural, while there is from 12 per cent. to 13 per cent. of it associated with cereal celluloses. One of the objects of the investigation now reported upon was to separate the cellulose from the furfural, and preliminary experiments with sulphuric acid of various strengths revealed the fact that an acid of specific gravity 1.550 hydrolysed the objectionable constituents, and on dilution with water gave a precipitate of cellulose associated with but 1 per cent. of furfural. Ultimately it was found that if the cereal fibre is

heated for fifteen minutes with 1-per-cent solution of sulphuric acid, at a pressure of three atmospheres, the furfural constituents are completely hydrolysed, and 70 per cent. of the fibre is obtained as pure insoluble cellulose, the other 30 per cent. of matter remaining in solution. This was examined to determine what it is, and, to make a long story short, as Mr. Cross occasionally put it, the chief part of the matter was found to be related to the pentoses, at one stage, indeed, was thought to be a xylose, but its behaviour towards reagents, and its physical characters, led them to the conclusion that it is pentose monoformal,  $C_5H_8O_3O.CH_2$ . They believe that it is formed in the plant by fermentative change, and is not a product of extrinsic oxidation—in short, it may be regarded as one of the stages in lignification, a subject which the authors are studying.

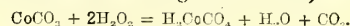
Mr. Warrington congratulated the authors on the importance of their results. They had provided, in their simple hydrolytic process, the first step towards the clearing up of the mystery which had always baffled the skill of agricultural experimentalists—viz., why hay and such-like foods are poorer nutritives than corn. Apparently, the cereal carbohydrates are closely related to the xyloses, which are not foods.

Dr. Norman Collie followed with remarks upon the simplicity of the process suggested by the authors. In his experience that was the direction of success. The  $C_5$  group seemed to him one of the most interesting to organic chemists, and he called attention to the wide existence of the  $CHOH.CH_2OH$  group in plant products.

The next paper was by Mr. R. G. Durrant, B.A., of Marlborough College, on

#### A NEW COMPOUND OF COBALT.

Cobalt chloride yields precipitates with alkaline hydrates and carbonates, but not with potassium bicarbonate, free from carbonate. On adding hydrogen peroxide to a mixture of the chloride and bicarbonate the solution turns green, there is an apparent precipitate, and brisk effervescence. So far this fact has not been noted in text-books. If a little of the cobalt-chloride solution is diluted with plain aerated water from a syphon, solutions of potassium, sodium, calcium, and barium hydrates give the green coloration on addition of hydrogen peroxide, but with ammonia the green colour is quickly discharged. Mr. Durrant's experiments led him to the conclusion that the green colour is due to the formation of salts of cobaltic acid,  $H_2CoO_3$ , the reaction being as follows (cobalt carbonate being first formed):—



Advantage may be taken of the reaction to separate small quantities of cobalt from nickel. To the solution of the two salts potassium-bicarbonate solution is added, then hydrogen-peroxide solution (20 vol.); after the effervescence ceases the solution is boiled, whereby the whole of the nickel is precipitated, or, rather, what remains in solution, for most of the metal is precipitated in the cold. The filtrate is colourless in the absence of cobalt, but green when it is there. Mr. Durrant raised a laugh when he produced a solution of nickel carbonate made with Burgoyne, Burbidge & Co's salt. We know where the laugh came in, but why? Some discussion followed as to how the salt is formed, but it did not throw much light upon the matter, and nobody took notice of this fresh analogy between the elements cobalt and nickel—a green solution in both cases. Next, Dr. Sidney Williamson, who has been working with Professor Purdie, F.R.S., of St. Andrews, on, amongst other allied topics,

#### ETHEREAL SALTS OF OPTICALLY-ACTIVE AND INACTIVE MALIC ACIDS,

gave a *résumé* of a paper on this specific subject. The chief point of interest in the communication was that the recorded observations of numerous workers in this department of research are all wrong, because they have not assured themselves that the ethereal salts which they used were pure. As made by the action of acid upon the alcohol, the salts (*i.e.*, esters) contain a proportion of the optically-inactive substance, which is not the case when they are made by interaction of the silver salts with the alkyl iodide. For instance, ethyl lactate, made by acting upon ethyl alcohol with lactic acid, is a different thing entirely from the ethers



made by acting upon ethyl iodide with silver lactate. Under the influence of the free acid racemisation takes place, so that a dextro rotatory body is sometimes changed into a levo-rotatory one and *vice versa*.

The papers taken as read were: "On Meta-dichlorobenzene," by F. D. Chattaway, D.Sc., and R. C. T. Evans; "On the Temperature of Certain Flames, and on the Determination of the Composition of a 'White Sou' by a method of Spectrographic Analysis," by Professor W. N. Hartley, F.R.S.; "On Halogen Additive Products of Substituted Thiosinamines, Acidic Thiocarbimides, Thioureas, and Ureas," by A. E. Dixon, M.D.; "An Apparatus for the Detection of Boric Acid," by W. M. Doherty.

## The Active Principles of Indian Hemp.

IN a note on "Charas: the Resin of Indian Hemp," communicated to the Chemical Society by T. B. Wood, M.A., W. T. N. Spivey, M.A., B.Sc., and T. H. Easterfield, M.A., Ph.D., and printed in the *Proceedings*, the authors state that they have examined "charas," the exuded resin of *cannabis indica*, with a view to the isolation of the active principle. The method adopted consisted in the fractional distillation of the ethereal extract prepared from the crude substance. By this means four compounds were isolated:—(1) a terpene, b.p. 170–180°. (2) A sesquiterpene, b.p. 258–259°, identical with that previously obtained by Valenta from Personne's "cannabene," the green oil obtained when the hemp-plant is distilled with water. (3) A paraffin, probably  $C_{25}H_{50}$ , m.p. 63.5–64°. (4) A red oil, formula  $C_{15}H_{24}O_2$ , semi-solid below 60°, and boiling constantly at 265° at 20 mm. pressure; this compound is present to the extent of 33 per cent. in the sample of charas examined. In doses of 0.05 gramme it produces intoxication, followed by sleep. The substance has also been isolated by the authors from a number of pharmaceutical preparations made from the plant. The resin, cannabin, prepared by T. and H. Smith in 1845, contains no less than 80 per cent. of the oil. There can be no doubt, say the authors, that the characteristic action of Indian hemp is due to the presence of this compound, the constitution of which is under investigation.

[Indian hemp appears to be fast becoming as complex in constitution as ergot. The following are some of the bodies which have been isolated from it during the past fifty years:—

- Cannabin, isolated by T. and H. Smith in 1845.
- Cannabene,  $C_{15}H_{24}O_2$ , isolated by Personne in 1857.
- Cannabene hydride,  $C_{15}H_{22}$ , isolated by Personne in 1857.
- Alkaloid like nicotine, isolated by Preobschensky in 1876.
- Cannabinine, isolated by Siebold and Bradbury in 1881.
- Essential oil (cannabene),  $C_{15}H_{24}O_2$ , sp. gr. 0.929, isolated by Palenta in 1881.
- Tetano-cannabin, isolated by Hay in 1883.
- Another alkaloid, isolated by Warden and Waddell in 1884.
- Choline, isolated by Jahns in 1887.
- Active resin, isolated by Roux in 1887.
- Choline, isolated by H. F. Smith in 1891.

Each of these, be it noted, is claimed to be the active principle. Some have been obtained from Indian hemp, some from haschisch, and some from charas. What is wanted now is to get the whole mass of information reduced to intelligibility. Charas is interesting, but the herb itself as used in European medicine is what we particularly need to know about.—ED. C. & D.]

## The Spectroscope.

AT the concluding ordinary meeting of the Midland Chemists' Assistants' Association, held at Birmingham last week, Mr. F. Smith read a lengthy paper on "The Spectroscope," which instrument he considered to be one of the greatest discoveries of the century. Mr. Smith traced the influence of Newton, Wollaston, and Fraunhofer upon the optical knowledge which led up to the accurate examination of the components of light, incidentally explaining the

theories of that branch of physical science, and the formation of the spectrum by passing a line of white light through a prism, whereby it is separated into parts having different wave-lengths and different colours, from violet to red. The light from a glowing gas, instead of showing a band of blended colours or continuous spectrum, shows only one or more strips of colour upon a black band. Sodium vapour, for instance, shows two very brilliant yellow strips, because the sodium light is composed of two different wave-lengths only. Similar conditions obtain in respect to other elements and substances, and in order to examine the phenomena the spectroscope is used. This consists essentially of a stand upon which is a glass prism, with its axis vertical and fixed, and pointing towards the prism are three metal tubes, each like a telescope. The first of these, or collimator, is fixed, and serves to collect a suitable beam of light for examination. The light enters the end by a narrow slit, is then rendered parallel by means of a lens, and passes on to the prism. After passing through the prism this beam of light enters the second tube, which is in effect a telescope, and through it the spectrum is seen. By means of the third tube, at one end of which is a microscopic glass with lines ruled thereon, and illuminated from a separate light-source a fixed scale is thrown upon the prism and is observed along with the spectrum, serving for the identification of the various lines of the spectrum. Through this instrument a slit of sunlight forms a continuous spectrum, upon which are seen a large number of dark lines, called Fraunhofer's lines, which we know to be due to the light of certain substances passing through the vapour of the same substances, whereby the two wave-motions counteract each other, producing darkness. From this fact the components of the sun are known, amongst them being sodium, calcium, iron, magnesium, chromium, nickel, zinc, hydrogen, and others—altogether upwards of thirty—while more may be in course of formation. The author commented upon the great help that the spectroscope has been to astronomers, and gave some interesting facts regarding the planets, stars, and nebulae which have been learnt by its aid. For example, he explained that stars may be divided into four classes. Of the first of these, Sirius may be taken as an example. Its spectrum consists of a bright background crossed by only six dark lines, from which we may conclude that it is in a younger and hotter state than our sun. The lines are those of hydrogen, with faint indications of magnesium and sodium. Of the second class our sun is a type. In the third class the dark lines are increased by elements of higher atomic weight than those seen in the sun, such elements as bismuth, tellurium, antimony, and mercury being apparent; and in the fourth class a still further darkening of the spectrum is observed by the change from dark lines to wide bands. The stars in this last class are probably much cooler than our sun, and settling down to the prosaic state which our own globe has reached. The author referred to the use of the spectroscope in chemistry, stating that caesium, iridium, rubidium, and thallium were discovered by its aid. The instrument is occasionally found to be of practical utility in manufacturing processes, and as an example he mentioned the production of Bessemer steel. In this process everything depends upon turning out the mass of metal when a certain chemical composition has been reached, and a mistake of a few seconds might result in the whole batch being spoiled. The vapour given off by the heated mass is watched by means of the spectroscope, and directly certain lines in the spectrum due to carbon disappear, it is known that the correct moment has arrived, and the mass of metal is run off. Reference was also made to absorption-spectra. When light yielding a continuous spectrum is passed through smoked glass, or neutral-tinted glass, a general absorption ensues, causing a decrease of brilliancy along the whole of the spectrum. If it be passed instead through coloured glass, a selective absorption ensues—that is to say, certain portions of the spectrum retain their brilliance, while other parts are darkened. Various liquids yield a like result, absorbing each certain definite portions of the light, and so yielding certain definite and distinctive spectra. Solutions of magenta, iodine, permanganate of potash, and, in fact, nearly all coloured solutions, may be distinguished by their absorption-spectra. Blood yields a quite distinctive spectrum, and it has been stated that a blood-stain containing but 1000 gr. may be thus detected.



## Legal Reports.

### COMPANY CHEMISTS AND THEIR TITLES.

#### PROSECUTION BY THE PHARMACEUTICAL SOCIETY.

ON April 24, at the Bristol Police Court, before Messrs. J. C. Godwin and W. Lane, Boots Pure Drug Company (Limited), of 16 Island Street, Nottingham, were summoned on an information laid by Thomas William Stroud, of Walthamstow, Essex, on behalf of the Pharmaceutical Society, which alleged that on April 16, at 13 Queen's Road, Clifton, the company unlawfully did not paint or affix, and keep painted or affixed, the name of the company on the outside of the office and place there in which the business of the company was carried on in a conspicuous position in letters easily accessible. Mr. R. E. Vaughan Williams (instructed by Messrs. Flux, Thompson & Flux) prosecuted, and Mr. H. Y. Stanger, Q.C. (instructed by Messrs. Wells & Hind, Nottingham), represented the company.

Mr. Vaughan Williams said the proceedings were taken under sections 41 and 42 of the Companies Act of 1862. The Pharmaceutical Society was charged with the protection not only of chemists and druggists, but of the public also, and while an individual chemist or druggist was required to pass stringent examinations, a limited company could not pass an examination, and it was difficult to ascertain, in regard to a company of that sort, whether the man serving behind the counter was a qualified chemist. Outside the shop in Clifton there was no trace of the word "Limited," which was an essential part of the name of a limited company. There was not even a letter "L" with a small "d," although he did not think that would have complied with the statute. The only words displayed were "Boots, Cash Chemists," and it was obvious that persons going to the shop and making purchases would fail to know they were dealing with a limited company. A penalty could be imposed for every day during which the name was not properly put up, and the business had been started three months; but it had been thought sufficient to ask for a penalty for only one day, as there was no desire to act with vindictiveness towards the company. At the same time, he asked that a substantial penalty might be imposed in regard to that day.

Mr. Stanger intimated that Mr. Jesse Boot, the managing director of the company, admitted that the name was not up on April 16. It had, however, since been placed in position.

Thomas William Stroud gave evidence in support of the summons, and said that on purchasing articles at the company's premises in Clifton he was given receipts bearing the name of the company.

Mr. Stanger said this was a most trifling case and need never have been brought into court. The company was well known. It had branches in many places. The Clifton premises were opened, not three months ago, but on February 16; and it was intended from the outset to put up the name of the company as required. There was no object whatever to be gained by the company in concealing the fact that it was a company. On the contrary its interests were to let it be known that it was a company, and because it was a flourishing company with a large turnover it was able to offer advantages individual chemists might not be able to offer. On February 8 a man sent to fit up the shop applied to the Nottingham headquarters for a glass tablet for the front door, and on the 10th an order was given for this to be provided. There were plates in stock, but some of a particular pattern were wanted to harmonise with the fittings already in use. The order was not completed in time for the opening of the shop, and there was a technical breach of the law. But in every case persons dealing at the shop had received vouchers similar to those produced by Mr. Stroud, which explained clearly that the business was that of a limited company. What possible harm could be done, then, and what possible necessity was there for the Society coming forward and saying, "We find it necessary in the interests of the public to come to this court and ask for a penalty of 5*l*." The Act showed that the necessity of having the name put up was in the interests of creditors, not in the interests of the general public, who were protected

by the fact that each purchaser had the invoice referred to given him. The company had no creditors in Bristol, no was it likely to have; and obviously there could be no risk of mischief such as the Act guarded against by the name of the company not being displayed. The branch was under the management of a pharmaceutical chemist, assisted by another qualified chemist and druggist, and they were not authorised to pledge the credit of the company. It was an inadvertence that this plate had not been put up, and the defect had been remedied. The company had been locally advertised, and it was preposterous to say there was any desire to hide the fact that it was a company. No one could have been injured by the inadvertence, and he asked the Magistrates to consider the technical breach of law as a very trifling matter. There had been no wilful or contumacious breaking of the law; it was a very trifling non-compliance with the Act, and he asked the Justices to treat the case accordingly.

Frederick James Mead, manager of the company's Clifton branch, said he was a pharmaceutical chemist, and was assisted by Mr. Pitt, a qualified chemist and druggist. Vouchers similar to that produced by Mr. Stroud were given to every purchaser.

Jesse Boot, managing director of the company, also gave evidence bearing out the statement of counsel. Answering a point raised by Mr. Vaughan Williams, he said that there was another company, Boots (Limited), of which he was also managing director, but it had nothing to do with the Boots Pure Drug Company. A good many branches had been opened by the Boots Pure Drug Company.

Cross-examined: Both companies advertised as cash chemists.

By Mr. Stanger: They worked in distinct districts, one in the West and the other in the Midlands.

Albert Edward Smith, who had charge of the shop-fitting at the Clifton branch of the company, explained the steps taken to procure a plate bearing the company's name for the shop, prior to the date of the summons. Finding the plates of the pattern required were out of stock he gave an order for a fresh supply, and a few days elapsed before this was complied with.

Mr. Godwin said the case had been carefully argued on both sides. It was admitted there had been a technical offence. The Magistrates had simply to administer the law, and that had been broken. The company would be fined 20*s*. and costs.

Mr. Vaughan Williams asked that a portion of the fine might be applied to the expenses of the Society.

Mr. Stanger opposed the application, saying that if the Society thought it had a duty to perform it might have warned the company. Prosecutions of this kind ought not to be encouraged.

Mr. Godwin: The application as regards costs will be dismissed.

### COUNTY COURT CASES.

#### THE ROMANCE OF A SET OF TEETH.

IN the City of London Court, on Monday, Messrs. G. R. and T. C. Matland, surgeon-dentists, London Wall, E.C., sought to recover 4*l* 4*s*. for a set of false teeth supplied to Mr. D. Carroll, 70 Cable Street, E. Mr. Shortt appeared for the plaintiffs, and Mr. Ricketts for the defendant.

Mr. Shortt said the teeth were made to fit the defendant, but when he tried them some dispute arose, the defendant declining to pay for the teeth. The defendant had now raised a counterclaim for negligence, and for damages for false imprisonment.

Mr. Commissioner Kerr asked what the defendant had done with the teeth, and on being told that he was using them, said, "Then he ought to pay for them." Mr. Ricketts, however, pointed out that it was a condition that they should fit properly, and these did not.

The defendant was called, and said the first set which the plaintiffs made for him never fitted. He stipulated that he was not to pay for the set now sued for unless they fitted better than the first lot. The plaintiffs guaranteed that the teeth would be all right, but they were not.

Mr. Commissioner Kerr said the defendant should not have kept the teeth if he did not want to pay for them.



Mr. Ricketts: He has no other teeth in his head.

Mr. Commissioner Kerr: If a man comes here with teeth in his mouth I will assume that they fit. It is nonsense for the defendant to come here and talk like this. I do not know what stuff will be tried on me next.

Mr. Ricketts contended as a matter of law that the defendant was entitled to a reasonable time in which to say whether the teeth fitted him or not. There was no agreement that ready money should be paid.

Mr. Commissioner Kerr: The law infers it. A man is entitled in law to say, "I will not part with my goods until I get the money." A baker does not part with his penny loaf without the money. Why should a dentist part with his teeth?

Mr. Ricketts added that when the defendant said he did not think he ought to pay for the teeth until he had had an opportunity of trying them, the plaintiff put his back to the door, and bolted it, telling the defendant that he should not leave the house until he had paid the money. The plaintiffs sent for a policeman, and he was called into the house. The defendant was given in charge, and the defendant was taken to the station.

Mr. Shortt: No, no.

P.C. 653 K was called, and said that on February 19 last he was called to the plaintiffs' place. He was told that the defendant had a set of teeth in his month which he would not pay for. He said, "What do you wish me to do? Do you wish to charge the gentleman with stealing the teeth?" and the plaintiff said, "No, decidedly not." He then said he could do nothing for him; it was a matter for a County Court, and not for police interference.

Mr. Commissioner Kerr: Very good law.

The defendant said the policeman brought him to the station. Mr. Commissioner Kerr said he would give  $\frac{1}{4}d.$  damages.

Mr. Shortt, however, said all the defendant's assertions were denied, and protested against a verdict being given against the plaintiffs, even for  $\frac{1}{4}d.$  They denied that they had even detained the defendant. "What did you send for a policeman for?" asked the Judge.

"As an umpire," said Mr. Shortt.

Mr. Commissioner Kerr: What nonsense will be talked next? Sending for a policeman as an umpire!

Evidence was called in support of the assertion that the defendant stayed in the place willingly, but Mr. Commissioner Kerr held there had been detention. He, however, said the claim of 50*l.* damages for false imprisonment was impudent. Everybody knew what troublesome things false teeth were at first. He believed the defendant was a perfect nuisance to the plaintiffs. That was his view of the matter. He gave judgment for the plaintiffs for 4*l.* 4*s.*, the amount of the claim, with costs; and for the defendant on the counterclaim, for  $\frac{1}{4}d.$ , but without costs.

#### A CHEMIST FINED UNDER THE APOTHECARIES' ACT.

At the Preston County Court on Tuesday, before Judge Coventry, James Eteson Walker, chemist, of Church Street, Preston, was sued by the Society of Apothecaries for a penalty of 20*l.* for acting as an apothecary without possessing the necessary qualification. Mr. Mansfield, who appeared for the Society, stated that the defendant had paid the penalty into court, but he now applied for costs on the higher scale. Mr. Firth, who represented the defendant, said that, as the defendant had paid the penalty into court, there was no case to come before his Honour. The Judge decided to hear the application. Mr. Mansfield said there were three charges against the defendant of having acted as an apothecary in November last and afterwards, and, as evidence had to be taken on commission, costs on the ordinary scale would amount practically to nothing. Mr. Firth said his client had paid the penalty into court merely as an admission that he did not desire to defend the action, but he made no admission as to his general practice or anything else. The case presented no novel or important point, and could only be of interest to the parties immediately concerned. His Honour remarked that he had no doubt the case was of very considerable interest to apothecaries, and also to the public generally, because they were concerned about those who carried on a trade for which they had no authority. He made the order that plaintiffs be allowed costs on the higher scale.

#### MEDICATED SOAPS AND THE MEDICINE-STAMP ACT.

In the Queen's Bench Division on April 27, before the Lord Chief Justice and Mr. Justice Wright (sitting as a Divisional Court), the question whether pine-tar soap is a medicine was argued in the case of *Fincher v. Duclercq*, on a special case set out by Magistrates. The respondent carries on business at Margate under the name of Adolph Ludovic, and is the manufacturer and vendor of an article called by him Ludovic's pine-tar soap. It was proved before the Margate Magistrate, on October 30, 1895, that on May 14, 1895, the respondent sold a box containing three tablets of the soap, that there was no stamp affixed to the box, and that the respondent had no licence authorising him to sell medicines liable to stamp-duty. Certain handbills and advertisements accompanied the box, one of the handbills drawing attention to the marvellous curative properties of pine-tar soap for eczema, ringworm, &c. On behalf of the appellant it was contended that the soap should not have been sold by the respondent without a stamped paper, cover, wrapper, or label, in accordance with the Medicine-stamp Act. It was alleged that the respondent required a licence to sell the soap, and it was admitted that the soap could only be liable to duty if proved to be an "unguent, salve, or ointment, or chemical or official preparation," within the meaning of the schedule to the Act. On behalf of the respondent it was contended that the article was a mere toilet-article, and was not an "unguent, salve, or ointment." The Magistrates held that there was no evidence of any offence against the Act, and dismissed both informations. The question for the opinion of the Court was whether the Magistrates were right in point of law in dismissing the informations, on the grounds that neither the stamp nor the licence mentioned was necessary in the circumstances of the case.

Lord Robert Cecil appeared for the appellant; Mr. Dickens, Q.C., and a junior counsel for the respondent.

The Lord Chief Justice, in giving judgment, said he was very far from saying that if those who were representing the Crown had thought proper to offer evidence, evidence might not have been given which would have brought this case within the statute. But the Court had to deal with the case presented to the Magistrates, because unless the Magistrates perversely disregarded the evidence, the Court had no power to interfere with their decision at all. What took place was that the Crown produced certain puffing statements of the respondent and a piece of the pine-tar soap, and said, "That is our case." The Magistrates were not bound to find that an offence had been committed against any one of the Acts under those circumstances. The appeal must be dismissed.

Mr. Justice Wright concurred.

#### PHARMACY ACTS CASES.

##### DUPLICATE PENALTIES IN IRELAND.

At Newry Quarter Sessions on April 25, Mr. J. Walker Craig, Q.C., deputy for Judge Roche, gave judgment in the case of the Pharmaceutical Society of Ireland *v.* Wilson, which was an appeal by the defendant, David Wilson, grocer, Church Street, Rathfriland, against orders of the Justices of Rathfriland, who on January 3, 1896, fined him in two sums of 5*l.*, with 1*l.* costs in each case—first, for having, on October 17, 1895, sold a poison—to wit, cantharides—contained in a bottle of Leeming's essence, contrary to the Pharmacy Act; and, secondly, for having, on the same date, kept open his shop for the retailing and dispensing of poisons contrary to the Pharmacy Act.

For the defendant it was stated that he was not aware that Leeming's essence contained a scheduled poison, otherwise he would not have sold it, and submitted that as both offences were practically one and the same transaction, the ends of justice would be met by the affirmation of one of the convictions. For the Pharmaceutical Society it was contended that his Honour had no alternative but to affirm both appeals.

His Honour, who had reserved judgment, now said that if he could have seen his way to dismiss one of the prosecutions he would have done so, because he thought it was rather hard on the defendant to bring two summonses against him for practically the same thing. When the



cases were on he suggested to the counsel who represented the Pharmaceutical Society that they should abandon one of the summonses, and that he would make a rule upon the other affirming it with costs, but the counsel said that the Pharmaceutical Society had refused to allow him to take that course. He (his Honour) thought that was very unreasonable conduct on the part of the Society, but he could not help it. The nearest case he could find to the one with which he had to deal was that of the Queen *v.* the Justices of Meath, reported at page 127 of the 27th Irish Law Times reports. In that case two summonses were issued against a person keeping a public-house—one for harbouring a constable, and the other for giving him drink. That was just like the case he was dealing with now—both offences were substantially one and the same transaction. The Court of Queen's Bench in that case upheld two separate convictions, and he could not distinguish that case from the two cases before him; therefore, he was obliged to affirm the two convictions, but he did so without giving any costs.

#### A BRADFORD APPRENTICE FINED.

At Bradford County Court, on April 28, the Pharmaceutical Society of Great Britain sued Mr. J. W. Savage, for the recovery under the Pharmacy Act of a 5*l.* penalty for an offence committed by him against the provisions of the Act—viz., the sale of a drug containing  $\frac{1}{2}$  gr. of morphine. Mr. T. R. Grey (instructed by Messrs. Flux, Thompson, & Flux) appeared for the plaintiffs, and the defendant was represented by Mr. W. H. Hines. Mr. Grey stated that the defendant was the son of the late Mr. J. L. Savage, chemist, of Listerhills Road, Bradford. On January 30 a bottle of a balsam of aniseed was purchased from the defendant, who was in charge of the shop at that address. The shop was one of three occupied by the executors of the late Mr. Savage in various parts of Bradford. The contents of the bottle were analysed, and found to contain  $\frac{1}{2}$  gr. of morphine. The medicine, containing as it did a scheduled poison, as such should only be sold by a duly qualified man. Mr. Hines submitted that the young fellow was an apprentice under a duly qualified assistant, and that both the defendant and the manager must have been present in the shop when the purchase was effected. His Honour gave judgment for the plaintiffs for 5*l.*, with costs.

#### NO MEDICINE-LICENCE.

At the Horsham Petty Sessions, on Saturday last, James Palliser Douglas, chemist, of Billingham, was summoned for selling patent medicines without a licence. It appeared from the evidence of William Henry Exton that on February 21 he went to the defendant's shop and asked to be supplied with a bottle of patent medicine which he saw in the window. The defendant supplied him, and witness paid him 2*s.* for it. Defendant hesitated about it, and said he had not got a licence. The defendant said that was the only bottle he had in stock, and he was not aware he had it. He had since found out that it was put in the window by his housekeeper. He used to hold a licence, but it expired in September last. The Bench inflicted a fine of 10*s.* and 9*s.* costs.

#### SALE OF FOOD AND DRUGS ACT.

##### CHARGES OF INACCURATE DISPENSING.

At the Clerkenwell Police Court on April 29, before Mr. Bros, Elizabeth Horton, of 44 Seven Sisters Road, was summoned for selling a compounded drug—tartarated antimony, nitrate of potassium, and water—which was not composed of the ingredients in accordance with the demand of the purchaser—to wit, tartarated antimony 1 gr., nitrate of potassium 1 dr., and water 6 oz.—the said compounded drug showing a deficiency of  $\frac{1}{3}$  gr. of tartarated antimony. Mr. Bramall prosecuted on behalf of the Islington Vestry, and Mr. Derham defended Mrs. Horton. Chas. Lawrence, inspector under the Food and Drugs Act, proved leaving a prescription at the defendant's shop. It was made up, and he paid 1*s.* for it. The mixture was divided into three parts. One was left with the defendant, one was produced, and a third sent to the Public Analyst, who certified that it was  $\frac{1}{3}$  gr. deficient in tartarated antimony. Mr. Derham

questioned the value of an analysis of only a portion of the mixture. Mr. Bramall pointed out that the deficient ingredient was perfectly soluble. Mr. Bros: Where the skill of a chemist is called into question I think the whole mixture should be analysed, and I suggest that the other two parts should be sent to Somerset House for that purpose. I had a case a short time ago, and one portion of the mixture contained more of one ingredient than it should have done. Possibly in this case the other two-thirds contain more than their quantity. It seems to me these cases should go before a different tribunal than a police court. The case was accordingly adjourned in order that the whole of the mixture might be analysed.

Alfred Williams, of 195 Seven Sisters Road, Holloway, was also summoned for having inaccurately compounded the same prescription. In this case the analyst had found no tartarated antimony at all. Mr. Bramall prosecuted on behalf of the Islington Vestry. Mr. Ricketts, who appeared for the defence, admitted that, owing to a mistake, the tartarated antimony was left out of the mixture. Mr. Bros said it was important that drugs should be mixed in accordance with prescription, and imposed a fine of 10*s.* and 12*s.* costs.

#### MEDICINE MAN'S ACTION FOR LIBEL.

In an action for libel—Seaman *v.* Ward—arising out of the sale of recipes for pills, electrified liniment, and cures for cancers and corns, the plaintiff on Thursday appeared in person to the Master of the Rolls and Lords Justices Smith and Rigby from a nonsuit by Mr. Justice Grantham, and asked for a new trial. It appeared that appellant, who resided at Anerley, sold the recipes in question to a Mr. Moore for 120*l.* He sued for a part payment of this amount in the Croydon County Court, and some forty days after the trial defendant published a notice of the case in a newspaper which he circulates at Peuge and Beckenham, in which besides, as plaintiff alleged, misrepresenting the facts, he remarked on Moore having opened a shop in the Strand for the sale of these specifics in terms which, plaintiff complained, suggested that they were worthless quack medicines. This was the constructive libel of which he complained, and he sued defendant for damages. He now complained that, on the mere statement of the case to the jury summoned in the case, Mr. Justice Grantham nonsuited him before he had heard the evidence, and he quoted reported cases in which the Judges, including the Master of the Rolls, had laid it down that a judge could not nonsuit a plaintiff merely upon counsel's statement of the case, as the speech might not disclose all the facts.

Mr. Blake Odgers, Q.C., for the respondent defendant, said this dictum had not been infringed in the case. Mr. Justice Grantham, having asked plaintiff if he had stated all the facts, and on his replying yes, said he could see no libel in the mere statement that Moore had opened a shop to sell the articles. There was no such suggestion as plaintiff complained of.

At the close of the arguments the Master of the Rolls said he at first thought from the notes of the learned Judge himself that he nonsuited the plaintiff on the bare statement of the case; but on further looking into the matter he was persuaded that the learned Judge was justified in saying that there was no case which could reasonably be left to the jury, and that even if this Court now granted a new trial plaintiff was not likely to get any benefit from it. The appeal, he thought, should be dismissed; and, the Lords Justices concurring, it was dismissed accordingly.

## Bankruptcy Reports.

*Re* WILLIAM BARRON, jun., 37 Winchester Street, Cheltenham, Chemist and Druggist.

THE first meeting of creditors under this bankruptcy was held at the Cheltenham County Court on April 25. The Official Receiver presided. Mr. Waghorne represented Messrs. Andrew & Co., creditors, and Mr. Maciaren appeared for the debtor. The proofs passed were those of H. G. Margrett, 1,431*l.* 3*s.* 1*d.*; Andrew & Co., 732*l.* 8*s.* 6*d.*; Sims & Turner, 409*l.* 8*s.* 8*d.*; the Misses Whittard, 23*l.* 2*s.* 4*d.*;



Hearon, Squire & Francis, 17l. 9s. 5d.; A. Webster, 9l. 19s. 4d.; Maw, Son & Thompson, 6l. 8s. 3d. The statement of affairs showed unsecured liabilities to the extent of 4,177l. arising, the Receiver remarked, chiefly from Stock Exchange transactions. The assets consisted of 1l. cash, and 175l. the estimated proceeds from the sale of the business. A year ago debtor believed himself to be 400l. to the good, and he estimated he made 150l. profit in the year. That amount had gone in living expenses and in losses on the Stock Exchange, (4,350l.), together with 81l. lost owing to illness in his family. On February 22 the debtor executed a deed of assignment to Messrs. Margrett and Sims, for the benefit of his creditors, and the trustees had disposed of the estate, consisting of stock and effects in the shop and book-debts, for 175l. 10s. The trustees were to pay the rent till Lady Day, so that the 175l. 10s. would be reduced by 50l., and out of the 125l. 10s. left the expenses would have to come. The creditors had now to consider whether they would appoint a trustee, and whether the action of the trustees under the deed of arrangement should be adopted or repudiated. If they believed it would be for the benefit of the creditors to repudiate what the trustees had done, Margrett and Sims must be requested to restore the estate to the same condition in which they found it, or in default to compensate the creditors' representative for any loss sustained in their dealing with it.

Mr. Margrett gave an account of the trustees' stewardship. When the debtor found himself in difficulties he consulted himself and certain other of the largest creditors, and they came to the conclusion that a deed of arrangement would be preferable to bankruptcy. As an inducement to the creditors to join in a deed of assignment, debtor's wife, to whom the furniture clearly belonged, was willing to hand it over for their benefit. Debtor's father being an elderly gentleman, held in respect in the town, they particularly desired to spare his feelings. Accordingly, a deed was prepared, and he (Mr. Margrett) went to London to see the chief creditors there. He related the result of his negotiations with the principal creditors, which were not very successful. Before going to London he and Mr. Sims had advertised the business, and obtained two or three replies from a distance, but nothing came of the negotiations which followed. Eventually Mr. Mowatt purchased the business at a valuation, the inventory of which the Receiver was at liberty to examine. The trustees' out-of-pocket expenses for the valuation were 6l. 17s. 6d.

Questions followed with reference to the debtor's transactions with Mr. Andrew, an outside broker. These transactions, it was alleged, were mere gambles; that Messrs. Andrew never went into the Exchange and bought this stock at all, and that when debtor wired "Buy me so much" they did not buy it, and that therefore the broker could not recover. Mr. Wagborne, however, maintained that the transactions were all in order, and the Receiver said judgment had been obtained by Messrs. Andrew, and to upset the judgment he must prove fraud. If it had not been for the judgment he might have left them to prove their claim. For the purposes of that day the proof was admitted.

Replying to the Receiver, Mr. Maclaren said he could not answer for it that Mrs. Barron would give up the furniture or any part of it now that the matter had gone into bankruptcy. His belief was that she would not. Mr. Margrett said he should be sorry to see the furniture given up under the present circumstances. Beyond all question it belonged to the debtor's wife, and if it did not the creditors could, seeing that its value was small, be generous at a very little expense.

Ultimately it was decided to leave the matter in the hands of the Official Receiver.

*Re* JAMES B. JOHNSTONE, 218 Kentish Town Road,  
Chemist and Druggist.

AN application for this bankrupt's order of discharge was made to Mr. Registrar Hope, at the London Bankruptcy Court, on Thursday last.

Mr. H. Brougham (Official Receiver) reported that the bankrupt failed last November with total liabilities 419l., and a deficiency of 259l. The assets had realised 8l. 18s. 11d., and the proofs lodged by creditors amounted to 102l. 16s. 11d. No dividend could be paid to the creditors. The bankrupt originally commenced business in 1886, with 50l. capital, at

207 Southampton Street, S.E. He sold that business in February, 1894, for about 135l., having in the previous October purchased another business for 145l. at 218 Kentish Town Road, which he carried on until the failure. He attributed his insolvency to loss in connection with the Southampton Street business whilst carried on under management, to the payment of an excessive price for the Kentish Town business, and to other causes. Three offences were alleged by the Official Receiver—viz., insufficient assets to show 10s. in the pound on the unsecured debts, imperfect bookkeeping, and trading with knowledge of insolvency.

There was no opposition on the part of creditors, and the learned Registrar suspended the discharge for two years.

## Gazette.

### PARTNERSHIPS DISSOLVED.

Howlin, A. J., and Binnie, R. M. G., medical practitioners, Woking, under the style of Howlin & Binnie.

Rankin, G., and Carter, W. R., physicians and surgeons, Warwick, under the style of Rankin & Carter.

Trick, W. B., and Griffiths, J. E., chemists and druggists, Brompton Road, S.W., and Westbourne Grove, W., under the style of W. Burrows.

### THE BANKRUPTCY ACTS, 1883 AND 1890.

#### RECEIVING ORDERS.

Douglas, Joseph William, Palmerston Buildings, Old Broad Street, E.C., secretary to a public company.

Rogers, David, the younger, late Baxley Heath, now of her Majesty's Prison, Holloway, N., surgeon-dentist.

#### ADJUDICATIONS

Foster, Edward, Preston, and Samlesbury, near Preston, chemist and druggist.

Sloane, Robert Wilson, Ormskirk, veterinary surgeon.

Spaull, Frank Hilling, and Schlegeman, Ernest (trading as Meyer, Spaull & Schlegeman), St. Mary Axe, E.C., chemical and Australian merchants.

#### ADJUDICATION ANNULLED.

Simon, Sydney Herbert (adjudicated as S. H. Simon), Muscovy Court, Tower Hill, E.C., drysalter and commission agent.

#### ORDERS MADE ON APPLICATIONS FOR DISCHARGE.

Henden, William, Sidestrand, Norfolk, manufacturing chemist—discharge suspended for four years, ending March 18, 1900.

Hodges, Albert (described in receiving order as A. Link, trading as the Link Shell Truss Company), Wardour Street, W.—discharge suspended for three years, ending March 27, 1899.

## Trade Notes.

MESSRS. NESS & Co., of Darlington, have obtained from the Hobart International Exhibition three gold medals for their sheep-dips and thymo-cresol disinfectants.

MESSRS. R. HOVENDEN & SONS have published a supplement to their catalogue this week. It contains novelties in perfumery and many saleable sundries, the whole being amply illustrated.

THE Homoea Company offer a guaranteed profit of 50 per cent. on their cycle-aea, homoea nursery-powder, and veterinary homoea, and will only supply dealers who agree to sell at full advertised prices.

WE received too late for mention in our Colonial issue samples of "The Deadly Fly-trap," for which Messrs. Tidman & Son (Limited), Bushel Street, E., are the sole London agents. These sticky fly-papers are made under patent by Mr. William Slack, of Doncaster, and are notable for their soft stickiness.

THE LIEBIG'S EXTRACT OF MEAT COMPANY (LIMITED), 9 Fenchurch Street, E.C., have published a smart little



"Practical Cookery Book," compiled by Mrs. H. M. Young, of Warrington, which we should think all housewives who hear of it will eagerly seek for. There are 180 recipes in the book, and although all the dishes do not contain Liebig's extract, a good many of them do, and they are all the better for it. The book is well illustrated, and the cover is lithographed in colours. Chemists who can distribute the book to advantage amongst their customers should write to the company for a supply.

THERE are few departments of galenical pharmacy which have been so rapidly developed within recent years as the making of pills, and we have this week an example of how matters are going in the information which Messrs. Hearon, Squire & Francis, of Southwark Street, S.E., give us that, for the second time in six years, they have had to increase their steam-power pill machinery. They make beautiful pills, both in gelatine and "pearl" coatings; and a feature of the latter is the pretty tints which they impart to the coating when desired—as, for instance, in the case of private formulæ. We may also note the fact that the pills and their coating are soluble, and, judging from uniformity in weight rolled with exceptional care.

THE Liquor Carnis Company, in sending us samples of Caffyn's liquor carnis, call our attention to the fact that they have made great improvements in covering the raw-meat flavour of the preparation, and increased the proportion of muscle-plasma. It is, indeed, difficult to say that the liquor is a raw-meat product, the flavour is so nice. Perhaps more important than these matters is the new recommendation which the company are making—viz, to mix the juice with hot fluids. This, we understand, is owing to the repugnance which many have to cold liquid food, and we take it that it is not recommended as the best method of administering beef-juice in all cases. For fever patients we should still prefer to give the liquor with twice its volume of soda-water.

MESSRS. DUNCAN, FLOCKHART & CO.'s new London premises on Snow Hill, E.C., are practically ready for opening, as they will be on Monday, May 4. The basement is used for storage and packing, the ground-floor as a show-room and office, and the floor above as a store and order room. Mr. Procter Atkinson, who has charge of the branch, informed our representative that wholesale and general orders will not be executed at the branch, but only casual orders for small quantities of the firm's specialities which have not been stocked hitherto by London houses, and for which there is a growing demand by medical men. When these are ordered in prescription, chemists will be able to get them promptly by sending to the Snow Hill branch. Chloroform is also kept, but that can be obtained from wholesale houses at 2d. per lb. below the makers' price, so eagerly is cutting carried on nowadays.

MESSRS. OPPENHEIMER, SON & CO. (LIMITED), 14 Worship Street, E.C., have introduced a new preparation of *Hydrastis canadensis* root, which they call "Sculcopine," and which is described on the label as "an alcoholic distilled extract of fresh *Hydrastis canadensis*, containing all the active principles of this drug." As we find that it does contain the alkaloids berberine and hydrastine, which are not volatile, we presume that the description is somewhat broad, and that it implies, as we are informed in a communication accompanying the sample, that "the colouring-extractives have been almost entirely removed" by distillation. Sculcopine is an amber-coloured fluid, slightly heavier than water, and owing to the absence of the persistent colouring-matters of the drug it can be used with greater freedom, as it does not stain linen so readily as fluid extract of hydrastis, while it has the same therapeutic properties. The firm have also introduced a new bipalatinoid, each of which contains the alkaloidal and mineral hypophosphites of a drachm of syr. hypophos. co. The bipalatinoid is called "Bipal. Ferri Hypophos. Co." They are also putting up pure creosote palatinoids, each containing  $\frac{1}{2}$  minim of carefully purified beechwood creosote.

WHEN the history of the sticky fly-papers comes to be written an interesting chapter in it will relate to the "Fly Cemetery," which is, we understand, the first thing of the kind to have been sold by modern chemists. Messrs. Tunbridge & Wright, of Reading, started this branch of their business

seven summers ago, and this important step was taken by accident. These were the circumstances. At a bee show in the summer of 1888 they were exhibiting various preparations in connection with agriculture (in which they took great interest), amongst them a "Honey Fly-gum," which was a sticky gum containing a proportion of honey to attract the flies. After a bit one or two farmers in the neighbourhood sent for it, and asked the firm to spread it on paper. So brown paper was first used, then parchment-paper (as being non-porous), and that quickly developed into the "Fly Cemetery" as it is now sold. The trade was small at first, but, as the drug-trade all over the world knows, flies have wept more in contemplating their "Reading horror" than they have ever done beside inviting troughs of arsenic and water. As a matter of fact, the increase in the sales of the "Cemetery" is reckoned by the 3,000,000 per annum, and from 15 to 20 tons of parchment-paper is needed to meet the season's supply. Messrs. Tunbridge & Wright are now getting ready for a hot summer, and the samples of the papers which they send us have all the qualities which have given the "Fly Cemetery" its lead.

### The Anti-cutting Movement.

ABOUT sixty chemists from the south-western districts of London assembled at the Queen's Gate Hall, South Kensington, on Wednesday evening, to discuss the objects of the Proprietary Articles Trade Association. Mr. John Thompson (S. Maw, Son & Thompson) took the chair at a quarter to 9, and was supported on the platform by Messrs. Albert Cooper (Gloucester Road), G. R. Barclay (Barclay & Sons), Tebbutt (W. Sutton & Co.), Barstow, and Powell, jun. (Powell & Barstow), Norris, and Glyn Jones (Secretary). The Chairman, in opening the meeting, said the cutting question was one in which they were all interested to a great extent, whether retailers, dealers, or manufacturers, and they were all agreed upon two points, however much they might differ in some respects. First, that this cutting of articles is a very great evil; and, secondly, that it was most desirable if practicable to put an end to it. The Proprietary Articles Trade Association had been formed expressly for this purpose, and it appeared to him that it was likely to succeed, but they must have the help and co-operation of chemists, and nothing could be done without union. He believed it was to the interest of every chemist in London—unless he was a cutter—to join this Association, and he hoped that every gentleman in the room would that night be persuaded to join (unless he was already a member). Before pledging them, he would ask the Secretary to say what the Association had done and was doing.

Mr. Glyn Jones said it was one of his duties to remove the misconception which existed in regard to the constitution of this Association, and as to what the objects and methods were. One of the most palpable of these errors was that this was an Association emanating from the manufacturers of proprietary articles, and that they were ready to receive the chemists with open arms, offering terms. That was not so; the very reverse was the fact. This Association was the outcome of some discussion among some retail chemists. The present meeting was, perhaps, largely composed of chemists, who could take an independent position in regard to the proprietary-articles trade. Unfortunately, he was one of the bulk of retailers who had to face the question, and, as a result of some conversation with other retailers, they came to the opinion that there was a satisfactory solution to be found, and that, as retailers, they had something to offer manufacturers. He thereupon went to the wholesale houses and found the greatest willingness on their part to co-operate in any movement which had for its object the improvement of the proprietary-articles trade. His next step was to approach certain manufacturers, many of whom were found to be in sympathy with the movement. They had tried to show the manufacturers that the people who profess to distribute their goods at an infinitesimal profit were really using that method to bring in customers, not for the article they intended buying, but for their own, which bore a good profit. Therefore, they felt that ultimately the manufacturers would have to decide between what he (Mr. Glyn Jones) called a legitimate trader



or retailer of proprietary articles and the stores, and that they could not obtain the friendship and goodwill of both. From some manufacturers they were met by the objection that by guaranteeing a fixed profit they would be opposing their largest customers. They were told of certain firms who bought more goods than all the other distributors in the same county. Were those firms really the friends of the manufacturers? They only sold these goods at no profit to get the public into their shops, and the manufacturers ought to shudder when they saw a customer going into one of those shops. Would not their business be safer in the hands of ten distributors than of one? Chemists claimed to be something more than mere slot-machines, but none of them could be quite independent of the proprietary-articles business. Were they not in Kensington familiar with the prescription brought to them with the bit cut off from the bottom, on which the prescriber had ordered, perhaps, some beef-preparation? They got the prescription, it was true, but why should they not sell the beef-preparation too? Besides, there was a tendency on the part of the public to get their drugs where they got their patent medicines. Until now they had not been able to proceed with their scheme, because they were waiting to get a sound legal opinion on it. They got that on Saturday last, and now they were ready to form their combination. There was no doubt about the disease. Were they to seek a remedy or not?

Mr. Albert Cooper proposed the following resolution:—

That this meeting of chemists residing in Kensington and neighbourhood pledges itself to support the Proprietary Articles Trade Association, and invites the co-operation of manufacturers in connection with the movement.

He hoped something would be done for chemists, some of whom had blamed the Pharmaceutical Society for the existing state of things. Mr. Cooper said he had been round to call on chemists in the neighbourhood during the past few days about this meeting, and in a radius of a mile had seen about sixty. He was surprised to find how bad things were with a great many chemists in that locality. Some told him it was now too late for any remedy. For his part, he believed something could yet be done. Others said the Pharmaceutical Society ought to have helped them. He said that was not the duty of the Pharmaceutical Society. The Society had done much good work, but it never could become a trade association. When he first went to the meeting of this Association he went as a sceptic, but he had become thoroughly convinced that by union between chemists and manufacturers a good deal might be accomplished. He still advocated, as he did at that meeting, that the price to be fixed as the selling-price of such goods should be their face value.

Mr. Robinson, in seconding the resolution, said he was glad to see Mr. Thompson in the chair, as he was a gentleman well known and respected. (Applause.) Speaking for himself, he could get along very well without the manufacturer, but that was not the best plan to adopt. He saw no reason for holding aloof from the Association, and thought it was well worth a trial. He had no doubt good would come of their efforts, if the scheme was properly worked. Referring to the numerous stores which had been started, he said he believed there were signs that they found it very difficult to keep up their returns.

Mr. Baker asked, What rate of profit the Association aimed at? And would they do their best to prevent the varying prices for quantities, which gave such an unfair advantage to large buyers?

Mr. Elliott (Shepherd's Bush) said that unless store-cutting could be efficiently stopped it would be useless for the retail chemist to attempt to do anything. He had made it his business to see a few of his neighbours, and they were of the same opinion as himself—that unless this particular class could be regulated they had better leave it alone. It was no use tying the chemists' hands and leaving the stores free, otherwise they would be in the same predicament as they were five-and-twenty years ago, when a meeting was got up for the purpose of checking the stores, the result of which was, owing to the publicity then given to the agitation, that the stores trade went up 50 per cent. and got the best advertisement it ever had. With reference to the question of buying, Mr. Elliott did not see how a wholesale dealer or

manufacturer could be asked to supply every man at the same price. He thought the man who was prepared to spend 20l. or 30l. on one article should have a little interest for his money. He did not see why a manufacturer should be compelled to send out a quarter-dozen pills at the same rate as he sends out a gross.

Other questions as to the scheme and as to the supporters of the Association were put.

Mr. Glyn-Jones, in reply, said that the meeting seemed to have pronounced views on the question of buying, and the only way they could effectively influence action in the direction they wished was through the combination now formed. They had not as yet touched the question of buying in any way—their hands were full in dealing with the selling-prices; but if they knew what the retailers wished in this matter, the Council would, no doubt, be prepared to lay before the manufacturers their wishes. As to profits, the Association could not guarantee any, but it could go to the manufacturers and ask them to give a certain profit. They had resolved that a profit of 20 to 25 per cent. was a fair rate to ask for, but they were not in a position to ask for any terms when only some five hundred out of some 8,000 chemists had joined. Chemists were undoubtedly the best distributors of patent medicines, and could expect a higher rate of profit; but when it came to goods like foods, &c., which are consumed a hundred times more, the chemist would have to put up with a less profit. The fact that Mr. Elliman had enforced a fixed price was proof that cutting could be stopped. As to the selling-price, his own individual opinion was that there should be but one net price, and that that should be the advertised price. He thought it very objectionable that in all sorts of things, not medicines only, but bicycles, pianos, &c., they should never know what the real price was. In his opinion 4½d. was too much profit to expect for handing over a packed article which cost 9d. He knew barbers who did four shaves for that amount, and then there was ½d. over. And shaving involved more skill than selling these articles. He mentioned the names of the firms who had joined the Association, and said that their list included every wholesale house in London with the exception of two. Asked for the names of these houses, he said they were Messrs. Newbery and Hovenden, who, he understood, were considering the matter.

The Chairman said there seemed to be little enthusiasm among the retailers, and he really expected to see a greater number present that night. He remembered when Messrs. Morgan Brothers were in business as druggists' sundriesmen he was very much struck with their trade-mark—a bundle of sticks. He commended that notion to chemists generally in this movement. He hoped every chemist present would join the Association.

The resolution was carried unanimously.

Mr. Spyer next proposed—

That this meeting is of opinion that a local committee of chemists should be formed to act in conjunction with the Proprietary Articles Trade Association.

This resolution was seconded and carried unanimously.

Another gentleman suggested that the President of the Chemists' Assistants' Association should ask that Association to join.

Mr. Glyn-Jones, referring to the candidates for the Pharmaceutical Council, asked the meeting to support Messrs. Park and Campkin, as they were in sympathy with the movement and would help if the opportunity occurred.

Votes of thanks to Messrs. Cooper and Spyer for arranging the meeting, and to the Chairman, brought the meeting to a close.

#### NEXT WEEK'S MEETINGS.

Tuesday, May 5, Leeds Chemists' Association, in Law Library, Albion Place, at 8 P.M. Wednesday, May 6, Bradford Chemists' Association, at Mechanics' Institute, at 8 P.M. Thursday, May 7, Halifax Chemists' Association, at Old Hall, Old Cock Hotel, at 8. Friday, May 8, Sheffield meeting of chemists, at Montgomery Hall, at 8.30 P.M.

POWERS & WEIGHTMAN, of Philadelphia, commenced the manufacture of citric acid in the United States—in quantities for sale—in 1874, and John Powers first manufactured and introduced American quinine in 1827.



## At the Cookeries.

THE ninth "Universal Cookery and Food Exhibition" was opened by H.R.H. the Princess Louise, at the Imperial Institute, on Monday afternoon. The occasion drew a big crowd of well-dressed persons, who mobbed H.R.H. with all the impertinent curiosity which crowds are accustomed to display upon such occasions. On Tuesday morning, shortly before noon, the official opening-hour, THE CHEMIST AND DRUGGIST representative took a quiet walk through the gallery and annexes, and observed with satisfaction that many firms well known to readers of his journal were among the exhibitors. As presently the clock struck twelve, smart-looking lady-attendants gave a coquettish final dab to their curls, put their cuisinière-caps at a tilting angle, and cast a furtive look in small hand-mirrors; exhibitors, bent upon business, flicked the last specks of dust from their stands; important-looking gentlemen in frock-coats, with large gay medals (committee-men it was whispered), bustled about with orders and instructions; and a small knot of earnest ladies, who had crowded in front of the turnstiles to await the opening hour, began to file in. Later in the afternoon the crowd became uncomfortably large, and when our representative made his way home he heard two of the medalled committee-men express satisfaction at the attendance, which promised to become a "record" one.

Four hours of exhibiting in a room laden with gorgeously dressed meats, poultry, brides' cakes, and tarts of all shapes, colours, and degrees of indigestibility, would surfeit a Crassus or Lucullus. THE CHEMIST AND DRUGGIST man, who is accustomed to cultivate journalism on a little oatmeal, came away with a headache and a vague regret that some enterprising manufacturer of antibilious-pills had not "taken space" near the exit to present visitors with a sample box as a parting gift. An Aldershot cookery-class and an exhibit of mercantile cookery show how deeply the art of palatable-food preparation is striking root among the masses in this effeminate age. "The country of a hundred religions and one sauce" will soon be an utterly inapplicable epigram—at any rate so far as its second half is concerned. J. C. Buckmaster, Esq., M.A., J.P., one of the Vice-Presidents of the Association that promotes the exhibition, has written an eloquent preface to the catalogue, wherein he combats the "common fallacy" that "beer is necessary for a working man," denounces the British habit of eating "costly lumps of badly-cooked meat," and demands that architects shall give to sweet, clean, well-ventilated kitchens the place of honour in drawing plans for houses. Most wisely said, O excellent Buckmaster!

'Twere vain to try to escape from the German Emperor even at a cookery exhibition. Almost the first thing one notices when entering the show is an exhibit by Herr Otto Hartmann, of Berlin, who submits books on cookery, one of them turned down at a facsimile page of the menu of the Royal dinner. The Königl. Mittagstafel, on January 21 of last year, began with "English oysters," but that was before the famous telegram. "Dutch natives" have now probably supplanted their British rivals. Close by a Mr. John I. Watts shows an ingenious scheme of his for marking all foreign articles of food and drink imported into this country, by means of a system of small metal discs, with the word "Foreign." Each egg laid by an alien hen and imported here is to have an indiarubber stigma impressed upon it. It is not explained if, and how, the hon. secretary of the exhibition, a gentleman of the foreign cognomen of Herman Senn, is to be stamped. The Armour Company, of Tooley Street, have a dainty white-painted reception-room, where their extract of beef is dispensed. Armour's Vegetole, a new compound fat for cooking, is shown in another part of the exhibition, and elsewhere still our representative came across Armour's "Vigoral," a liquid extract prepared from the firm's extract of beef, with the addition of pure desiccated beef and suitable seasoning. The Automatic Air-tight Cover Company (Limited), of 17 Thavies Inn, Holborn, W.C., make a nice display of a new patent bottle-fastener of theirs, which has been adopted by Bovril, Pascall, and many other manufacturers. The invention consists of an indiarubber ring, which is placed around the neck of the bottle, a metal cover and a small holder to keep

the lid in its place. When the goods to be preserved have been exposed to heat the bottle is hermetically closed, but a small puncture in the lid suffices to make it come off again with the greatest ease. J. & J. Colman, of Norwich, show not only their familiar mustard, but also various wheat-meal and flour preparations.

In the principal gallery a most un-culinary odour of perfume greets the entering visitor. It proceeds from the gaily decorated stand of G. F. Sutton & Co., Osborne Works, King's Cross, who show a large number of flavouring-essences and essential oils, along with vanilla and one or two other products of that kind. Hard by are Jewsbury & Brown, of Manchester, who have a splendid show of mineral waters, including many of a medicated character. Among the latter lysidine water, containing 60 gr. of lysidine to the syphon, and piperazine water are prominent. Both, it appears, are coming into use a good deal. Jewsbury & Brown are the only mineral-water firm competing for an award. Two or three girls, in exaggerated Quaker bonnets and grey-and-white-dresses, distribute showcards of the Quaker oats. Crosse's Manufacturing Company, of 3 Catherine Court, E.C., have a small stand containing lime-juice, Alexander's beef-wine, and Indian relish; and opposite them Alfred Bird & Sons, of Birmingham, on a prettily-decorated stand, exhibit their custard, blanchmange, baking, and egg powders, with a bright assortment of delicacies in which these preparations have been used. Brand & Co., of the Mayfair Works, Vauxhall, show their well known and popular essences of meats, peptones of beef, sauces, &c, but their stand does not in any way differ from that generally seen at these exhibitions. Burroughs, Wellcome & Co.'s showcase contains a display of tea-tablets, and specimens of Keplersolution of malt, Wyeth's perfected beef juice, and pepsin-tablets. Caley & Son, of Norwich, a firm which had its origin in the pharmacy now owned by Mr. Octavius Corder, has left the path of pure pharmacy for the manufacture of mineral waters. They gained the gold medal at the Cookery Exhibition last year, and are not competing on the present occasion. P. Philip, 36 Rue du Mont Thabor, Paris, shows an improved system of hermetically sealing bottles, jars, &c. It seems rather more complex than the English system referred to above, inasmuch as it requires a capsuling-apparatus to fix the cover tightly upon the bottle. Maggi & Co., of Wigmore Street, have a gay show of essences for flavouring and improving soups and sauces, of concentrated soups in tubes, &c. The Bovril stand is bright with new appliances for enabling travellers or troops in the field to carry their rations in the smallest possible compass and with a minimum burden of weight. The company show red and black ration-tins, containing about 9 oz. of food each. The tins contain two kinds of food—one with a chocolate, the other with a meat, basis. An opener is attached to each tin. There are also parcels of meat-biscuits (containing 1½ lb) along with a supply of vegetable food. Each packet is wrapped in a waterproof cover, and forms a day's rations for a man. Lime-juice "nodules" and compressed tea, as supplied to the Nansen Expedition, are also shown. The Victoria Date Company (Limited), of Lambeth, have a good display of their date vinegar, which, from the specimens shown at the stand, appears to form a good basis for aromatic toilet-vinegars. Mr. Geo. Weddell, the managing director of the Cerebos Salt Company (Limited), of Newcastle-on-Tyne and London, reports that the business is flourishing, the output of Cerebos salt this year being greatly in excess of that of 1895. He is about to place upon the market a new saline, which will be prepared without *mag. sulph.* Van Houten's Dutch cocoa is shown in a somewhat simple manner and without attempt at display. The Berkefeld Filter Company (Limited), of Oxford Street, are, as usual, well to the fore. They have recently applied for a patent for a system of mechanical cleaning, which works by depositing a thin coating of the finest washed kieselguhr over the cylinders. The filtration-residue deposits upon this coat, and, as soon as the filters begin to run slow, the impurities can be thrown off and washed away mechanically.

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### COUNCIL CANDIDATES.

THE forthcoming election of fourteen members of the Phar-  
 maceutical Society of Great Britain to take seats at the  
 Council table promises to be slightly less dull than it has  
 been for a dozen years. Only twelve out of the fourteen  
 retiring members seek re-election, and six gentlemen have



come forward to fill the vacant chairs, and perchance supplant some of those who are willing to go back again. Two or three of the aspiring candidates have indicated their views on pharmaceutical politics by election addresses, but we do not find that any of them advocate any such novel proposals as to suggest any revolution in the policy of the Society. The chances of one or two new members reversing the general action of the Pharmaceutical Council, or, indeed, of much improving it, are very slender. Ten or a dozen new men might have some effect, but even they would have to master the details of the work, and acquire a familiarity with Committee proceedings before they could bring about such reforms as they might think necessary. At present, however, there is not the least prospect of any reversal of pharmaceutical policy, even if all the six new candidates should be elected. The voting will be closed at the annual meeting on Wednesday, May 20. The members at present on the Council who are seeking re-election are Messrs. Carteighe, Hills, Martindale, Savory, and Warren, of London; Mr. Corder, of Norwich; Mr. Cross, of Shrewsbury; Mr. T. P. Gostling, of Diss; Mr. Harrison, of Sunderland; Mr. Newsholme, of Sheffield; and Messrs. Johnston and Storrar, the Scotch members. All these gentlemen have attended well to business, as far as our records show, and the occasional absence of a few of them is explained by illness, or a hint from headquarters that the business is too trifling to necessitate their attendance. In the matter of public speeches Messrs. Carteighe and Harrison head the list, having in their capacities as President and Vice-President spoken at each of the ten meetings held since the last election. Messrs. Hills and Martindale stand next in activity, having made their presence felt at seven meetings; then comes Mr. Corder with five to his credit; Messrs. Cross, Newsholme, and Storrar have each spoken at two meetings, and Messrs. Gostling and Johnston at one each; but Messrs. Savory and Warren do not appear to have raised their voices on any public occasion. It ought to be explained, of course, that the real work of the Council is done in committee, but there is no reason to suppose that activity in private is inverse to what it is in public.

Of the new candidates Mr. Nathaniel Newborn Armitage stands first in alphabetical order, and also in age, or, rather, in youth. He is a son of Mr. Nathaniel Armitage, a Leeds chemist, and passed the Minor examination in October last, and the Major in January, so that he has not allowed the grass to grow beneath his feet in the race for pharmaceutical honours. Mr. Armitage is in his twenty-third year. Born in the midst of drugs and chemicals, he has "since his birth taken the deepest interest in pharmaceutical affairs," and was initiated into the secrets of the pestle and mortar at an early age. For three years he attended the Leeds Mechanics' Institute regularly, and occasionally the Yorkshire College for training in organic and inorganic chemistry, which resulted in his taking the honours stage in 1894, being bracketed first in position in all England. Thereafter pharmaceutical studies specially received his attention, and he became the youngest pharmaceutical chemist in Leeds. As the youngest aspirant to a seat on the Pharmaceutical Council, Mr. Armitage informs us that his moving spirit is the deep interest that he takes in all matters pertaining to pharmacy. "Our profession," Mr. Armitage continues, "does not stand upon such a high pedestal as what it ought. We are supposed to be protected by law, but not adequately enough considering the training and expense that we have to go through. A sore point with us all is company pharmacy, but I feel confident that even in this matter something can be accomplished. We want more pharmacists to join hands and become members of our Society; then, I think, it

would be quite an easy matter. I am perfectly antagonistic to cutting. Our future does, indeed, look dark, and I am sure it is time we put our shoulders to the wheel and altered things. I have no personal aims whatever in putting up. To see my brethren better situated is my sole excuse." We have received Mr. Armitage's portrait too late for inclusion in the present group; but we may say that he is as youthful looking as his years, and has a bright, intellectual face.

Mr. Thomas Bateson, J.P., of Kendal, has had the peculiar experience of getting the fifteenth place on the poll three



times, but that is not likely to happen again. Mr. Bateson is a Major man, and has been a member of the Society since 1868, the same year that he became a partner of Severs & Bateson, at Kendal. He is a man who wins friends quickly, as one may judge from his face. Pharmaceutically he has five planks in his platform—(1) to unite the trade so as to get concerted action to secure better legislation; (2) to

make associates eligible for election to the Council; (3) to extend both parts of the poisons schedule by Act of Parliament; (4) to remedy injustice to those in business in country towns by reconstituting the Council; and (5) to secure powers by Act of Parliament to stop unqualified men from practising pharmacy under such titles as "Drug-stores." This is the ticket upon which Mr. Bateson has gone at the last three elections.

Mr. Algernon Sydney Campkin, J.P., Cambridge, was in business when the Pharmacy Act passed, and has been second to Mr. Bateson on the two previous occasions that he has tried to get into the Council. Mr. Campkin is a man of proved administrative ability, and, in his capacities as Grand Master of the Manchester Unity of Oddfellows, town councillor, and poor-law guardian, has had a training in public business and speaking which should be useful when applied to trade matters. Mr. Campkin seeks election on somewhat



broad principles. He would like to see (1) the Pharmaceutical Council representative of the whole trade, irrespective of connection with the Society; and (2) is in favour of bringing associates into the Council in proper proportion, on the principle that taxation and representation should go together. He would (3) extend the poisons schedule; (4) endeavour to prevent cutting by mutual arrangement between manufacturers, wholesalers, and retailers; and (5) as the Legislature demands a certain qualification of chemists would insist upon a certain degree of protection for those of them in business as against limited-company stores whose existence tends to jeopardise that of the qualified men created by the State. The store-system, he considers destroys that sense of personal interest which has so long



existed between the chemist and the public—a popular programme, it is evident.

Mr. Charles James Park, of Plymouth, was the first candidate in the field, and as a West of England man seeks the seat vacated by Mr. Schacht. He backs his claim with a good record of pharmaceutical experience and a sound programme. He made his acquaintance with the drug-trade in Plymouth, where he was apprenticed for five years to Messrs. J. Dampney & Co. After that he was "junior" to Mr. Bailey, Regent's Park Road, N.W., and from there went to the "Square" to complete the training which he had got earlier in Plymouth Science Classes. He negotiated the Minor in July, 1875; was tempted by Mr. Guyer, of Torquay, to go down there for a time, stayed three years, then attempted the "Major" successfully; went to Paris to manage the English department at Gallois et Cie's, Place Vendôme; and after that spent three years in Messrs. Wilcox & Co.'s foreign pharmacy in Oxford Street, W. Then he settled down in Plymouth, and has been a leader of opinion there for some time. Mr. Park's "ticket" has been well circulated. These are its leading features:—(1) He is in favour of the Early-closing Bill, with the saving clause, safeguarding the special interests of chemists; (2) of associates in business being eligible for a proportion of the seats on the Council; and (3) of poisons such as carbolic acid, sugar of lead, oxalate of potash, &c., being added to Part 2 of the Schedule. Further (4) he has given the "anti-cutting" scheme his hearty support, and intends to do his best to further its objects in the interest of the retail chemists.

Mr. Charles Symes, Ph.D., of Liverpool, if only "for 'auld lang syne," is pretty sure to get a good way up the poll. He sat at the Council table from 1879 to 1889, and during that period was as popular outside as he was hardworking and free-speaking inside. On the seven occasions that he appealed to the electors he was placed second on the poll six times and at the top once. Mr. A. C. Abrahams succeeded him when he retired, and since he withdrew from the Council the Liverpool district has been unrepresented, so that there are sure to be a good many plumpers from that quarter. Dr. Symes is at present on the Continent, and we have been unable to get at his views; but he is not a changeable man at all, except in the sense of moving with the times. He can usually be depended upon to voice the general trade opinion, whether it may be popular or otherwise, at Bloomsbury Square. He is a good pharmacist, and in the Council was always for having things done publicly rather than privately. It is significant that since Dr. Symes retired the public business of the Council has shrunk from a whole-day affair to something that barely carries on the members to lunch-time. We confess to slight



surprise of the doctor's contemplated return to Bloomsbury. We thought we had hit it off pretty accurately seven years ago when we said of his Council-work, "To be a voice crying in the wilderness figures well in history, but it is dull work in actual life, and of late years the suggestion of a topic concerning the material interests of pharmacists has been met with reproachful indifference by the powerful oligarchy which clusters round the President." The very fact that Dr. Symes contemplates a return to this condition of things is characteristic of him—he likes to fight odds.

Mr. George Sampson V. Wills is a Northamptonshire man, who starts in the struggle for a seat at the Council with the odds all against him, in respect to the fact that at "the Square" they do not love him. Some years ago, when his election seemed threatening, a circular, signed by several influential members of the Society, appealed to the electors to scratch Mr. Wills's name. He was not elected, and has been up since—last year with the result that he figured at the bottom of the poll, with 645 votes to his credit. We imagine that the circularisers were ashamed of what they had done, and will not repeat the operation. Mr. Wills served his apprenticeship

with Mr. Harris, Stony Stratford, and was afterwards an assistant to Mr. Bullen, at Hockley Hill, Birmingham. In 1871 he was appointed a private dispenser to one of the apothecaries of her Majesty's household, and while there, with all the difficulties of "Minor" and "Major" before him, he conceived the idea of starting a college of pharmacy, and that idea has since blossomed into the Westminster College. This was a well-known school before Mr. Wills passed the "Major" in 1876, and since then he has helped more men to get over the "Minor" fence than any person living. This rather hurts Mr. Wills now, for the idea has got abroad that he has an axe to grind in seeking to be a councillor. "I do not desire a seat for any private advantage or personal aggrandisement," Mr. Wills retorts, and we think the necessity for the retort were "better dead." Mr. Wills solicits the suffrage of the electors on these grounds: He would (1) endeavour to make the Society fully representative of the trade; (2) refuse to recognise practice in a drug-company pharmacy as sufficient for the Minor, and would introduce several improvements in the methods of conducting the examination; and (3) he would give his best attention to the grievances connected with company pharmacy, the opening of shops and dispensaries by medical men, "cutting" and "patent medicines," outside medicine-dealers, and the jury question. Mr. Wills's return would open an interesting era. As an educational specialist by practice he could introduce experience into the Council deliberations, which it has not too much of at present.

Such are the six good men and true who are desirous of serving their fellow-traders. It is only fair to weigh in the balance with them the dozen who have served on the Council and are now seeking re-election.

#### LAVOISIER.

M. PANNETIER, pharmacien, of Commentry (Allier), France, has been good enough to send us a copy of a very interesting





address on "Lavoisier and Medical Science" which he lately delivered before the "Society of Medical Sciences" of Gannat, in the vicinity, he states, of a noble family, descendants of the Lavoisier family, and inheritors of his manuscripts and apparatus. To be near those precious relics should make the pulse of anyone who has ever been interested in science beat more quickly, and Frenchmen above all are justified in missing no opportunity of maintaining the glory due to the memory of perhaps the truest genius their country ever produced, especially in view of the cruel ingratitude their own ancestors showed to him. The execution of Lavoisier will always stand out prominent even among the myriad crimes on the records of that Reign of Terror which was to inaugurate the era of Liberty, Equality, and Fraternity; and inadequate though the posthumous compensation must be, the placing of wreaths on the tomb of the murdered is all the justice that succeeding generations can bestow.

We may mention in passing that the manuscripts we have alluded to, and many other previously unpublished documents, were made good use of by M. Edouard Grimaux in his valuable life of Lavoisier, published by Felix Alcan, at Paris, a second edition of which has just appeared.

M. Pannetier refers to Lavoisier as "the creator of chemistry," and there is not much hyperbole in the phrase. He was at least the architect who drew the plans on the lines of which the scientific structure of to-day has been erected—vast additions have been made to his design, but these have been in harmony with the scheme which he first sketched. There have been disputes as to Lavoisier's exact claims in regard to isolated facts; but no one has ever denied that he, and he alone, at the time perceived the full significance of the remarkable discoveries which were being made in his day by Priestley, Cavendish, and Scheele. Priestley's mind was hopelessly confused by the phlogiston theory, and he persisted to the end of his days in regarding his great discovery of "dephlogisticated air" as the conclusive proof of the truth of the Stahlian dogma. It is impossible to say what a growth of error might not have arisen and choked the truth if it had not been that, at the critical moment, Lavoisier showed, with convincing clearness, the bearing and the relation of the multitudes of isolated facts which had accumulated.

But the remarkable thing about Lavoisier is that chemistry, in the annals of which his name is immortal, was only one of the many occupations in which he distinguished himself. He was a geologist, a botanist, a physicist, and a meteorologist. From his twentieth year to the day of his death he took careful barometric observations. He was a statesman, by far the most active member of the Academy of Sciences, a man of society, an agriculturist, a writer, a Government official, a country gentleman, and a reformer. In each of these capacities he did work which would have creditably filled an ordinary lifetime. He was intensely beloved by his near relatives, and by those who came into closest contact with him; and he was guillotined on the 20th Floreal, Year II. of the Republic (May 9, 1794), aged 50 years and 8 months. In his lecture M. Pannetier shows by numerous quotations how clearly Lavoisier anticipated modern hygienic and medical ideas. His discovery of the composition of the air led him to the explanation of the phenomena of respiration and of animal heat, and to the study of the processes of digestion. Then he traced out the cause of foul air, and in one of his treatises gave the measurements of space necessary for proper breathing. In another memoir he suggests the possibility of measuring the nervous force consumed in brain-work. "It would be possible," he says, "to estimate the mechanical equivalent of the work of the

philosopher who reflects, of the author who writes, of the musician who composes." He showed how the animal, vegetable, and mineral kingdoms interchanged their elements. In a report on prisons he points out, with almost a modern bacteriologist's insistence, the importance of employing in the buildings only hard stone perfectly cemented. Porous or shelly stones, he says, absorb the excremental putridity from diseased inmates which develop themselves in time with deadly effect. The woollen clothes, too, of the prisoners, he remarks, and the woollen bed-clothing are more easily charged with putrid emanations than linen. And he says in another place, "It would be rash to conclude that the putrid emanations are the causes of the disease; we cannot even be sure that they are the aliment and the vehicle of the germ of this disease brought from elsewhere." These and other citations which might be made show how clearly



M. AND MME. LAVOISIER. (From a painting by David.)

Lavoisier apprehended the principles of what we are pleased to consider modern hygiene.

In relating the story of his trial and execution, M. Grimaux has investigated the bases of the famous legend which has been one of the stock anecdotes of the history of the Revolution. Carlyle relates it in his usual dramatic fashion, thus:—

The Spring sends its green leaves and bright weather, bright May, brighter than ever: Death pauses not. Lavoisier, famed Chemist, shall die and not live: Chemist Lavoisier was Farmer-General Lavoisier too, and now "all the Farmers-General are arrested"; all, and shall give an account of their moneys and incomings; and die for "putting water in the tobacco" they sold. Lavoisier begged a fortnight more of life, to finish some experiments; but "the Republic does not need such"; the axe must do its work.

There exists no full report of the proceedings which terminated in the condemnation of Lavoisier and of his twenty-seven colleagues of the "Ferme"—that is, of the Exchequer. The story of Lavoisier's demand for a fortnight's



respite to finish some experiments, and of the President's alleged reply, M. Grimaux believes to be apocryphal. He believes that the demand attributed to Lavoisier was a reminiscence of a letter he wrote to the Convention during his imprisonment, asking permission to finish his labours on the Commission of Weights and Measures—the Commission which planned and elaborated the metric system. The response attributed to the President of the tribunal (Coffinhal) seems to have been authentic, but M. Grimaux believes it to have been expressed in reference to a document submitted by Hallé, one of the accused farmers-general. The exact words which were quoted by Fourcroy sixteen months later were that the Republic had no need of men of science (*savants*); a single clever man (*homme d'esprit*) at the head of affairs was sufficient. According to Quenaut (1796), Coffinhal's reply was, "The Republic has no need of *savants*. Justice must take its course." The legend that this response was made in reply to a demand by Lavoisier rests almost entirely on the authority of Cuvier, who makes the statement in a biographical notice which he wrote several years after Lavoisier's death, and on the authority, it was believed, of Madame Lavoisier, with whom he was well acquainted. Certainly Madame Lavoisier wrote a memoir of her husband from which Cuvier quoted, but her record went no further than the year 1793.

It is inherently improbable that Lavoisier would have asked for himself to be distinguished from his colleagues. He knew quite well before his so-called trial that his death was determined on. A letter of his, written to a cousin a day or two previously, remains to show the calm, heroic spirit with which he was prepared to face his death. His father-in-law was one of the twenty-eight farmers-general condemned at the same time, and was guillotined a few minutes before Lavoisier. The trial was a mockery. One advocate was permitted to speak for the twenty-eight, and he was allowed a quarter of an hour to take his instructions.

In the early part of his imprisonment Lavoisier anticipated the confiscation of his property, but not his condemnation to death. He then (M. Pannetier quotes from Lalande, a contemporary) formed the project of embracing pharmacy as his future profession, that being, he said, "the most analogous to his previous studies, and the calling most in accord with the reputation he had gained." No higher compliment was ever paid to pharmacy since the world began.

#### MR. CHAS. LEDGER AND THE DUTCH GOVERNMENT.

In our issue of March 21 we printed the letter in which the Dutch Minister of the Colonies refused to entertain Mr. Ledger's application for additional remuneration in respect of services rendered by him thirty years ago in supplying the Dutch Government with South American cinchona-seed. Mr. Ledger has addressed to the Dutch Government a spirited reply to their refusal of assistance. He says:—

When in 1865 I sent the cinchona-seed (the origin of the now famed "Ledgeriana" variety) to my brother in London, the then Consul for Holland was introduced to him by the late Mr. J. E. Howard, who, among other statements, said: "In Java they are scientifically cultivating and propagating the cinchona more successfully than our own Government are doing in India. We are working, too, in the greatest harmony." With the understanding that, after consultation with his Government, a fair price would be paid for it, half of the seed (about 20 lbs.) was handed over to the Consul. No price was demanded. Some twenty days after 400 florins (about 36*l.*) was sent to my brother. Now, I would respectfully ask the Hon. Minister who were the experts that, without trial or assay, took upon themselves the responsibility of valuing what was more than standard gold at the price of copper? That the valuation was not fair was admitted when, sixteen years later, a further and quite inadequate 100*l.* was paid to me by your Hon. Government.

In all my appeals for justice or return of moneys actually expended by me in adding so materially to the wealth of your country and people I have only once asked for a "reward," and to that I was impelled by

despair on finding myself destitute through unforeseen misfortune in my old age.

For every pound paid to me your Hon. Government has gained hundreds—nay, thousands—of pounds, without taking into account future riches. I respectfully apologise for trespassing on your time and attention. I am desirous that in due time the public may be informed as to the true "character of the commercial transaction" the Hon. Minister quotes as a reason for refusing the respectful appeal for reimbursement of moneys expended by me, and so enormously adding to the wealth of your hon. country and people.

Your humble servant,  
(Signed) C. LEDGER.

Mr. Ledger has a good case, and he cannot be blamed for stating it with vigour. But we fear that Ministerial skin is too thick to be penetrated by any representations on Mr. Ledger's part or on our own. It would have been a gracious and, we think, a wise act of the Dutch Government to have given a small pension to an old gentleman whose efforts have admittedly been a source of great wealth to Holland and her Colonies and who never asked for generosity so long as he was able to work for his living. Mr. Ledger is now 75, but even at the eleventh hour there is time for repentance for His Excellency at the Hague. Does Holland really wish to be just as mean to the cinchona pioneers that have added to its wealth as Britain has been to hers.

#### MALT EXTRACT.

Mr. Conroy's note on the present supply of malt extract is well timed, for the supply of non-diataseic extract is undoubtedly increasing. At the same time, the fact should not be overlooked that there is now a great deal more high-class malt extract in the market than there used to be, and it is obtainable at a cheaper rate. It is one of the easiest things in the world to test malt extract. We may emphasise Mr. Conroy's suggestion to use potato-starch or arrowroot, because root-starches are converted more easily and quickly than grain-starches. The following are the conditions which are most convenient at the dispensing-counter:—Mix 10 drops of tincture of iodine with 5 oz. of water, and pour the mixture in about equal quantities into a dozen test-tubes. Take two 30-gr. lots of Bermuda arrowroot, mix each with a drachm of cold water in a separate beaker, teacup, or gallipot, and pour on 4 oz. of boiling water. Separately dissolve 1 drachm of the malt extract in water to an ounce. When the starch mucilage has cooled to 110° F. put the vessels into a pan of water, kept at about 100° F. Add to each vessel  $\frac{1}{2}$  oz. of the extract solution, and stir well. The mucilage quickly liquefies. The time at which the extract is added should be noted, and one-and-a-half minute thereafter a little of the mixture is taken from each cup, and a drop or two added to a test-tube, this being repeated every ten seconds, until the iodine solution takes only a faint-red colour—the cessation of the blue colour is a sufficient end point. There are extracts advertised in THE CHEMIST AND DRUGGIST which do this in from two to three minutes, and we are inclined to regard any extract which takes five minutes to convert its own weight of arrowroot as second-class.

#### M.D. CANTUAR.

The *Lancet* gives an interesting account of the origin of the degrees granted by the Archbishop of Canterbury. It appears that, immediately after the Reformation, Henry VIII. had an Act passed to enable the Archbishop to confer such degrees as had previously been given by the Pope, and the right was first exercised by Archbishop Cranmer in 1539. D.D., B.D., LL.D., LL.B., M.A., M.D., and M.B. are the degrees which have been conferred, and during the present century M.D. has been granted to thirty-one persons, of whom the following two, as far as we can find, are at present on the register:—Edmund Charles Johnson, 4 Eaton Place, London, S.W., F.R.C.S.; and John Rayner, L.S.A., M.R.C.S., M.R.C.P., Swaledale House, 115 Quadrant, Highbury, N. We may add that, by the Medical Act of 1858,



those holding the degree granted prior to the passing of the Act might have it added to the qualifications in the Medical Register. Dr. Rayner received his in 1861, so that it does not appear; while Dr. Johnson, having obtained the degree in 1850, has it entered in the register.

## Personalities.

MR. G. D. REEVE REEVE, who was for some time traveller for Mr. J. H. Haywood, Nottingham, is now representing Messrs. Raudall & Son, Southampton, in the south and south-west of England.

At the first meeting of the year of the Sheffield Board of Guardians, on Wednesday, Mr. G. T. W. Newsholme, F.C.S., pharmaceutical chemist, of High Street, was elected chairman for the ensuing year.

MR. EDWARD B. FORD, chemist, Poutypool, has been elected chairman of the Urban Council, which gives the honour of a J.P. He has also been elected chairman of the North Mounmouthshire Liberal Association.

In our article on an old Danish pharmacy in last week's issue we state that Mr. H. K. J. Grauer who succeeded Apoteker Aagaard as proprietor of the Love Apotek at Aarhus, was married to the last-named gentleman's sister. This is incorrect; it was not he but his father who was married to that lady.

THE will of Mr. Wm. Hy. Peat, of the firm of Lewis & Peat, 6 Miucing Lane, drug and produce brokers, who died at his residence, South Hayes, Wimbledon, on November 22, was proved on April 28 by Mr. Jas. Ernest Peat and Mr. Arthur Robt. Peat, both of 6 Miucing Lane, the sons, and Mr. Richard Dawes, 9 Angel Court, Throgmorton Street, the executors of the testator, whose personality is sworn at 71,625*l.* 1*s.* 5*d.* gross, and 22,030*l.* 7*s.* 3*d.* net.

MR. EUGEN DIETERICH, of Helfenberg, in Saxony, has received from the King of Saxony the distinction of appointment as Royal Court Counsellor (Hofrath). This distinction was conferred upon the gentleman in question in consequence of the services rendered by him to practical and scientific pharmacy, both as a manufacturer and as an author, and especially because of the valuable work accomplished by him as a member of the Royal Technical Deputation. This is the first case in the kingdom of Saxony in which the title of Hofrath has been conferred upon a manufacturer. Mr. Dieterich is known in certain English pharmaceutical circles as the author of those useful manuals, "Pharmaceutisches Manual" and of "Die Helfenberger Annalen," in which he gives practical information upon his experiences as a manufacturer.

## Marriages.

BARNES—REID.—On April 23, at St. Andrew's, Enfield, by the Rev. C. E. Barnes, brother of the bridegroom, Vicar of Saffron Walden, assisted by the Hon. Canon Pelham, Rector of Buckhurst Hill, and the Rev. E. H. Eagles, Francis Ernest, sixth son of the late Mr. W. C. Barnes, of the firm of Jenkin & Phillips, Mincing Lane, E.C., to Margaret, third daughter of Mr. John Reid, of The Old Clock House, Winchmore Hill.

SOUTHON—CHILDREN.—On April 16, at the Old Church, Tonbridge, by the Rev. W. B. Drawbridge, J. E. Southon, chemist, 8 Leadenhall Street, E.C., to Fanny, only daughter of Mr. John Children, of Tonbridge.

## Deaths.

LITTLEFIELD.—On April 19, Mr. James Wavell Littlefield, pharmaceutical chemist, of Ventnor, I.W. Aged 68 years. Mr. Littlefield died in London after undergoing a painful operation. He had carried on business at Ventnor (Isle of Wight) for upwards of forty years, was chairman of the

Undercliff Assembly Rooms Company for twenty years, chairman of the Burial Board, chairman of the Gas and Water Company, senior deacon and secretary of the Congregational Church, and a leading Conservative. The funeral took place on Friday last, amidst universal tokens of sympathy and esteem.

PARKER.—On April 14, Mr. William Parker, chemist and druggist, Derby. Aged 26.

PEIRCE.—On April 15, Mr. P. S. Peirce, chemist and druggist, Croydon. Aged 33.

POWELL.—On April 17, Mr. Edward Powell, chemist and druggist, late of Winchester. Aged 81.

## Composition of Wool-fat.

BY L. DARMSTAEDTER AND J. LIFSCHÜTZ.

FOLLOWING their recent communication to the "Berichte," the authors now give a fuller statement regarding the three lanestols obtained from the alkaline liquors from which the alcohols of wool-fat have been separated. The three bodies consist of (1) the potassium salt of carnaubic acid, (2) the potassium salt of myristic acid, and (3) a residue consisting principally of the fatty acids from the soap used in washing the wool, mixed with small quantities of myristic acid.

In the present communication they describe the methods by which they effected the separation of these substances in the pure state, and referring to the first, or carnaubic acid, mention its characteristics, and the results which demonstrated it to be  $C_{21}H_{40}O_2$ . It melts at  $72^\circ$  to  $73^\circ$  C., and is soluble in warm ether, benzene, chloroform, and glacial acetic acid, and is apparently identical with the carnaubic acid isolated by Stürcker from carnauba-wax—a rather remarkable fact. Equally remarkable is the occurrence of myristic acid in wool-fat, a fact which the authors' results amply proved by comparison with the acid isolated by Playfair's and other methods from expressed oil of mace; but they show that Playfair's observation that the alkali salts of the acid are not dissociated is incorrect. The yield of the acids is from 10 to 12 per cent. The research is not yet complete, but the authors have proceeded sufficiently far to be in a position to state that a considerable proportion of wool-fat consists of esters which contain neither cholesterol nor any of the fatty acids (palmitic, stearic, oleic, and cerotic acids) generally assumed to be present.

In what remains to be done they propose not to limit their investigations to Australian wool-fat, with which they have hitherto worked, but to extend them to all commercial wool-fats, as it is quite conceivable that differences in climate and the food of the sheep may be productive of different alcohols and acids in the wool-fats.

## New Books.

Blyth, A. W. *Foods: their Composition and Analysis. A Manual for the Use of Analytical Chemists and others. With an Introductory Essay on the History of Adulteration.* With Tables and Illustrations. 4th edit. revised and enlarged. 8vo. Pp. 768. 2*s.* (C. Griffin.)

Comey, A. M. *A Dictionary of Chemical Solubilities, Inorganic.* 8vo. Pp. 536. 15*s.* net. (Macmillan.)

Duncan, A. *Memorials of the Faculty of Physicians and Surgeons of Glasgow, 1599-1850.* With a Sketch of the Rise and Progress of the Glasgow Medical School and of the Medical Profession in the West of Scotland. 4to. Pp. 324. 10*s.* 6*d.* net. (Maclehose.)

Furneaux, W. *The Young Chemists.* 12mo. Pp. 220. 1*s.* 6*d.* (Blackie's Science Readers, No. 5.) (Blackie.)

Lang, H. *Metallurgy: its Principles and Later Developments, with an Account of the Pyritic Processes.* 8vo. Pp. 100. 10*s.* (Scientific Pub. Company.)

Wakefield, H. R. *Lessons on Living: a Reading-book in Physiology and Hygiene.* 12mo. Pp. 240. 1*s.* 6*d.* (Blackie's Science Readers, Nos. 6-7.) (Blackie.)

Woodbury, W. E. *The Gelatino-chloride of Silver Printing-out Process, including Directions for the Production of Sensitive Paper.* Cr. 8vo. Pp. 130. 2*s.* (Hazzell.)

*Year-book of Photography, and Amateur's Holiday Guide for 1896.* Illustrated. Cr. 8vo. Pp. 628. 2*s.*; sewed, 1*s.* (Photographic News Office.)



## Trade Reports.

42 CANNON STREET, E.C., April 30.

THERE has been very little animation in the drug and chemical markets since our last report. In fine chemicals the principal changes are another reduction of 1*d.* per lb. in refined camphor and a 2*d.* advance in morphia, declared to-day. Through a clerical error the subjoined paragraph relating to the  $\frac{1}{2}$ *d.* reduction established in carbonate of ammonia was omitted from our last report. Cream of tartar is again much dearer, and tartaric acid also shows a firmer tendency, while citric acid may follow in sympathy. Quinine dull. Bismuth salts are very firm, and an early advance is not considered altogether improbable. Chinese vermilion has further advanced. In heavy chemicals there have not been many changes beyond those enumerated in our special report on these articles. White arsenic is extremely firm. Sulphate of ammonia is dearer. Sulphate of copper higher for some brands. Benzol is firmer, nitrate of soda a little easier. Carbolic acid still tending lower. Sodas and potashes are practically unchanged. At the drug-auctions a fair proportion of goods changed hands, but there were few alterations in value. Cape aloes is slightly firmer. Ambergris neglected. Good annatto-seed held for full prices. Areca-nuts steady. Good Sumatra benzoin brings full prices; common kinds are somewhat dull of sale. Buchu-leaves in large supply. Croton-seed did not sell at such high prices as ruled recently. Camphor is again decidedly easier for crude, and the market is unsettled. Cardamoms have declined from 2*d.* to 3*d.* per lb. on an average. Dragon's-blood dull of sale. Ergot of rye may be had at very low rates. Galangal is extremely scarce, and higher prices are asked for this drug as well as for China root. Gamboge dull and slightly easier. Guarana sold at low rates. Gum acacia is much lower all round, and it is difficult to find buyers for any kinds. Honey sold cheaply to-day. Ipecacuanha a trifle easier for Brazilian. Jalap in large supply and tending lower. Kola-nuts are a little firmer. In musk no business can be reported. Menthol sold at much lower rates to-day. In essential oils there are few changes. Japanese oil of peppermint is lower. Croton oil and English distilled nutmeg oil higher. French oils of lavender and thyme are firmly held. Cod-liver oil is easier for Norwegian, barely steady for Newfoundland. In opium a small business is doing at steady rates. Orris-root quiet. Rhubarb dull of sale. Jamaican sarsaparilla fairly steady. Tinnevely senna-leaves well maintained. Vanilla sold at an advance of about 2*s.*, and there was a good demand for beeswax. Gum tragacanth has been in slightly improved demand. In the spice-market the chief event of the week has been the speculative movement in Zanzibar chillies, resulting in higher prices. Cloves are very quiet. Pimento and pepper dull of sale. Jamaica ginger in strong demand at an irregular advance of from 3*s.* to 5*s.* Cochin ginger quiet. Nutmegs and mace show no feature of special interest. The shellac market is slow orange shellac was steady, garnet 1*s.* dearer at auction.

Our Amsterdam correspondent telegraphs on Thursday evening:—At to-day's public auctions of Java cinchona-bark 5,558 packages were offered. Nearly the whole competition, at firm prices, the average unit being 2*s.*8*d.* per  $\frac{1}{2}$ -kilo., an advance of 0*s.*05*c.* on the March sales. The principal buyers were the English and American

manufacturers, who bought 6,373 kilos. sulphate of quinine; the Auerbach factory, 5,402 kilos.; Brunswick factory, 3,281 kilos.; Mannheim and Amsterdam factories, 5,342 kilos.; Frankfort-on-Maine and Stuttgart factories, 3,417 kilos.; and various buyers, 3,632 kilos. The range of prices was as follows:—*Manufacturing* barks, from 7 $\frac{1}{2}$ *c.* to 40 $\frac{3}{4}$ *c.* (= 1 $\frac{1}{2}$ *d.* to 7 $\frac{1}{4}$ *d.* per lb.); *Druggists'* bark, from 11 $\frac{1}{2}$ *c.* to 155*c.* (= 2*d.* to 2*s.* 4*d.* per lb.).

Our Bergen correspondent telegraphs on Thursday afternoon that the weather in the fishing-districts during the week closing yesterday has been unsettled. Telegram. The Finnmarken fishing has yielded a pretty good result, and the total output of fish is now 35,300,000, against 57,100,000 at the same time of last year, while the quantity of oil produced on the entire Norwegian coast amounts to 13,500 barrels, against 14,500 last year. The market is decidedly weaker, and 195*s.*, c.i.f., per barrel would now be accepted for best non-congealing oil. This is a drop of 5*s.* compared with last week.

Our New York correspondent wires on Thursday afternoon:—"The market for *Curacao aloes* has advanced here, but prices are somewhat irregular. There is also a better feeling for all varieties of *Balsam copaiba*, and prices are hardening. *Balsam of Peru* offers, according to holder and quality, at \$1.75 to \$1.90 per lb. *Carnauba wax* is easier. For good *Truxillo coca-leaves* 19*c.* per lb. is asked. *Newfoundland cod-liver oil* very active. *Jalap.* of new crop, is somewhat easier; the bottom price to-day is 12*c.* per lb. There has been an improved demand for *Honduras sarsaparilla*, which closes with an active market, common kinds being very scarce. *Spermaceti* quiet, but unchanged in price.

Our Smyrna correspondent wires on Thursday morning:—"The opium market here is extremely firm. Holders of fair manufacturing-opium require 8*s.* 8*d.* per lb. f.o.b., and for picked qualities 8*s.* 10*d.* per lb. f.o.b. is asked. There are very fair sellers even at these prices."

An interesting side-light is thrown upon the position of the gum-acacia market by a consular report from Suakin, on the Red Sea, which has just been published. Soudan Gum. The report is only a few weeks old; it bears the date of March 9. The Consul writes:—"The most noticeable feature in our trade last year was the large increase in the quantity of gum exported. The anticipations of an abundant yield of this article noted in my last report were fully realised, over 1,900 tons, valued at 61,711*l.*, having been shipped during the year, while considerable stocks remain on hand. The market price is now (March) about \$16 $\frac{1}{2}$  to \$17 the cantar, which is roughly equivalent to 40*s.* per cwt. The prospects of this trade during the current year, being dependent upon events of a political character, are extremely uncertain. Large quantities of gum, the produce of the new crop, are believed to be already on their way down from the interior, but the Berber road has recently been closed by the Dervishes at Kokreb, so that none of it can at present reach the coast." The shipments of gum acacia from Suakin in 1895 were 38,222 cwt. (declared value 61,711*l.*), against 23,680 cwt. (declared value 39,320*l.*) in 1894. Last year's shipments were distributed as follows:—United Kingdom, 11,168 cwt.; British India, 532 cwt.; Austria, 20,193 cwt.; other countries, 6,329 cwt.

ACID (CITRIC) is unchanged in price, but, in sympathy with tartaric, there is a rather firm feeling in the article. The English manufacturers quote 1*s.* 2*d.* per lb., but a couple



of days ago there were still second-hand sellers of this acid at 1s 1½d. per lb. *Concentrated juice* also shows a slight tendency towards firmer prices, 13l. 5s. f.o.b. Messina, being to-day's quotation.

**ACID (TARTARIC).**—Moving upwards. Early this week *Foreign acid* sold at 1s. 1½d. per lb., c.i.f. terms, but it is now doubtful whether further supplies could be secured at that figure, and on the spot 1s 2d. per lb. is the bottom price. *English (B.P.) acid* is quoted by the manufacturers at 1s 3d. per lb. At auction 41 bags of *Cape Argol* sold readily: good grey lump at 53s., dusty grey at 55s. to 53s., dark and pinky at from 41s. to 47s. per cwt.

**ALCOHOL.**—Our last week's quotation for *Methylated spirit* (1s. 7d. per gallon, naked) referred to large quantities. It would be impossible for the makers to execute ordinary wholesale orders at that figure, which practically leaves no margin for profit. It is anticipated that prices may ere long assume an upward tendency, as the forward market for the materials is extremely firm. *Wood naphtha* especially has a higher tendency.

**ALOES.**—At auction 29 kegs good brown treacle *Socotrine* were offered; 19 of these realised the comparatively high price of 80s. per cwt. Of *East Indian aloes* in skins, three cases partly fair, partly spurious quality were bought in at the nominal price of 70s. per cwt. *Curaçao aloes* was in small supply. Of 113 packages, 14 ordinary dark brown sold, subject, at 25s. per cwt. A fair lot was bought in at 40s. *Cape aloes* has been in improved demand privately. Since the last auctions some sales have been made, it is said, up to 26s. per cwt. for good bright hard quality. At auction there was a good demand, 48 packages selling readily at full prices; good bright 25s. to 25s. 6d.; partly drossy at 23s. 6d. to 22s. 6d.; ordinary dull at 19s. per cwt. The supplies have fallen off lately, and there seems to be a fair prospect of higher rates.

**AMBERGRIS.**—In fair supply, but somewhat neglected. At auction over 60 oz. were offered, of which only 3½ oz. sold, at 55s. per oz., for fair grey pieces of good aroma.

**AMMONIA CARBONATE** was reduced ½d. per lb. last Wednesday for all varieties by the English manufacturers, who now quote as follows:—Casks of from 2 to 5 cwt., 3d. per lb.; kegs of 1 to 2 cwt., 3½d. per lb.; jars or tins, 3½d. per lb.; powdered ½d. per lb. extra. This is the first change that has occurred in the article for more than eighteen months, the last alteration having been a slight advance.

**ANTIMONY.**—Crude *Japanese* is neglected, and offers at from 16l. to 17l. per ton.

**ARECA-NUTS.**—Small sales have been made privately lately at 12s. 6d. per cwt. At auction 12s. per cwt. was accepted for 10 bags of fair quality.

**BALSAMS.**—*Peru* balsam is somewhat unsettled; it is doubtful whether anything can be had from the importers below 9s. per lb. *Copaiba* steady; 4 kegs pale thin *Pará* were bought in at to-day's auctions, and 6 cases thin cloudy grey *Savanilla* sold, subject to approval, at 1s. 2d. per lb. Of *Tolu* balsam 6 tins of hard genuine quality were bought in. The supply in the warehouse is said now to exceed 50 cases.

**BENZOIN.**—*Sumatra* gum of good quality is well maintained in price, ordinary grades, however, are somewhat easier. At auction there was a fair demand, 87 packages out of 181 offering finding buyers, at the following rates:—Good almondv seconds, slightly false-packed corners, 8l. 5s. to 8l. 7s. 6d.; rather more false-packed ditto, 8l.; good almondv centres, but broad brown sides, 6l. to 6l. 2s. 6d.; ordinary seconds, very false packed, 5l. 15s. 6d. to 6l.; dull thirds, old fracture and few almonds, 90s. to 95s. per cwt. Of *Palembang* gum 156 cases were offered, of which 38 sold at a decline of fully 5s. per cwt.—viz., 25s. for fair glassy block; for common earthy quality 12s. per cwt. is required, a bid of 2s. 6d. being rejected. *Siam* gum was represented by 11 cases, of which 2 sold at 6l. per cwt. for good hard grain and small almonds in block. On the Amsterdam market there is very little demand, and the article is quite neglected, fine seconds being quoted at 90c. to 100c.; good, at 75c. to 85c.; fair, at 60c. to 70c.; and common, at 40c. to 50c. per ½ kilo.

**BUCHU.**—Arrivals have been somewhat heavy lately, and at to-day's auctions the large supply of 133 bales of round

leaves was offered. Of this quantity 52 bales sold at rather irregular rates, averaging about ½d. per lb. below those of the previous sales. Fair green realised 3d. per lb., medium, partly yellowish and stalky to ordinary dull, from 2½d. down to 1½d. per lb.

**CALUMBA.**—Of 130 bags offered to-day 20 sold, at 8s. 6d. per cwt. for fair rather brownish mixed sorts. Ordinary washed root is held for 18s. per cwt.

**CAMPHOR (CRUDE).**—The market has been very depressed since our last report. At the end of last week 200 piculs *Formosa* sold at 132s. 6d. per cwt., "c.i.f.," and since then there have been offers at lower rates—viz., 130s. per cwt., "c.i.f.," for *Formosa*, May–July shipment, and 141s. c.i.f. for *Japan*, same shipment. At to-day's auctions 319 cases of *Formosa* camphor were offered, "without reserve." The first parcel, consisting of 102 packages recently landed gum, sold at 122s. 6d. to 125s. per cwt. (one lot 127s. 6d. per cwt.), showing a decline of about 12s. 6d. per cwt. The next was a parcel of 217 cases, imported last July and stored at the City Commercial Wharf, one of the warehousing companies who do not report their holdings. This lot was apparently sold to the Syndicate brokers at 129s. per cwt. A further telegram to the *Times* from Singapore, dated April 28 (see our issue of last week), states that the foreigners arrested in *Formosa* were found collecting camphor without a licence, and that every consideration is given to legitimate traders.

**CAMPHOR (REFINED)** has again been reduced 1d. per lb. all round. The English manufacturers took the lead in announcing this decline on April 27, and foreign manufacturers followed shortly after. The price for parcels in 10-cwt. lots is now 1s. 10d.; from 10 to 20 cwt., 1s. 9½d.; and for ton lots, 1s. 9d. per lb. These are the makers' quotations, but second-hand holders still continue to undersell slightly. The market is altogether in a very unsettled position.

**CARDAMOMS.**—A fair supply was offered at auction to-day. It consisted of about 170 packages, of which 148 sold at very irregular, but generally easier, rates, the average decline being quite 2d. per lb. The following prices were realised:—*Ceylon-Mysore*, fine bold round pale, 3s. 7d.; good pale medium to bold, 2s. 10d. to 3s.; medium pale and yellow, 2s. 5d. to 2s. 8d.; small to medium pale long, 2s. 4d. to 2s. 6d.; small ditto, 2s. 1d. to 2s. 3d.; medium greyish, 2s. to 2s. 1d.; small to very small pale, 1s. 8d. to 1s. 11d.; brownish and yellow, partly split and specky, 1s. 7d. to 1s. 8d. per lb. Fair round *Mangalore* character, 2s. 6d. per lb. *Seed*, 2s. 9d. to 2s. 11d. per lb.

**CASCARILLA.**—Of 34 bales offered to-day only 10 sold, at fairly steady rates: small, partly broken grey and brown quill at 45s. to 50s.; very small and thin at 30s. per cwt.

**CASSIA FISTULA.**—At auction 30 bags lean dry wormy *Java* pods sold at 9s. 3d. to 9s. 6d. per cwt.; ordinary quality at 8s. 6d. per cwt. There has recently been an improved demand for this article in Amsterdam, stocks being much reduced. Sales have been made at the rate of 10 fls. per 50 kilos.; inferior quality, however, remains quite neglected.

**CHIRETTA** has been selling in a small way at from 2½d. to 2¾d. per lb. for good quality. At auction 15 bales of fair quality sold, without reserve, at 2d. per lb.

**CINCHONA.**—There were no parcels of South American cinchona of particular interest at to-day's sales. Thirty-six bales of *Cartagena* bark were bought in at nominal rates, and 27 bales of *Maracaibo* at 7½d. per lb. A new parcel of 92 serons *Loza* was shown, out of which 10 serons fair fresh, but very broken, sold at 8d. per lb. Nineteen bales of cultivated *Calisaya*, in long thin pieces, were bought in; 9d. per lb. would be accepted for them.

**COLOCYNTH** unchanged. Eleven cases fair pale *Turkey* apple were bought in at 2s. 7d. per lb. to-day, and 20 packages ordinary to good *Spanish* at from 9d. up to 1s. 3d. per lb.

**CREAM OF TARTAR.**—The continued rise in this article has been one of the principal features in the chemical-market this week. A moderate amount of business has been done, and to-day's closing quotation is 100s. per cwt. for good white French crystals, and from 102s. to 105s. per cwt. for powder, according to brand.



**CROTON-SEED**.—Slightly easier. Five 1-cwt. bags of good bright quality sold to-day at 65s. per cwt., the same price at which a much darker lot found a buyer at the last auctions.

**CUBEBS**.—For 11 bags small brownish, not stalky, berries shown to-day 32s. 6d. per cwt. is asked. Four bags of pale grey berries, without stalk, from Singapore, were also shown. The broker was about to part with them for 26s. per cwt., when someone made a higher bid which led to fresh competition, the lot being ultimately knocked down at 33s.

**DRAGON'S BLOOD**.—Dull of sale. About 25 packages were bought in to-day; fair quality, in reed, at 9l. 5s.; common bricky finger, mostly out of reed, was bought in without mention of price; for the last-named lot a bid of 90s. per cwt. was refused; bold but damp fiery lump was bought in at 6l. 10s.; ordinary dull cake at 95s.

**ELEMI**.—There is a fair stock in the London warehouses, including a good deal of fine quality, but the demand is extremely dull. At auction to-day 29 cases were offered, of which 4 sold, without reserve, at 21s. per cwt. for ordinary, rather dirty quality. A pale lot of good aroma was bought in at 32s. per cwt.

**ERGOT OF RYE** remains dull of sale at very low prices. Forty-one packages *Russian* ergot were shown, of which 7 sold, good sound grey at 5½d. (a bid of 5¼d. being refused for the remainder of the parcel), and fair quality at 4d. per lb. About 48 packages very wormy *Spanish* ergot were bought in at from 6d. to 8d.

**GALANGAL**.—Scarce and dear. The shipments from China last year appear to have been unusually small—viz., only 682 bales. On the London market nothing is offering in first hand.

**GALLS**.—*Persian* remain firmly held, at the rate of 54s. for good blue *Bassorah*; green and white galls of the new crop are now being offered at from 45s. to 47s. 6d. for the former, and 42s. 6d. to 45s. for the latter, quality. *Smyrna* galls dull of sale: good blue, 46s.; green, 40s. to 42s. 6d.; white, 35s. to 40s. per cwt.

**GAMBOGE**.—Neglected. Of 52 packages only 6 sold at rather lower prices: partly broken pipe, of good fracture, 10l. per cwt. (subject); fair, partly blocky pipe, mixed with broken pieces, at 8l. 15s.; and ordinary pickings, at 7l. 5s. per cwt.

**GUAIACUM**.—Quiet; of 9 packages, 6 sold, without reserve, at 5½d. per lb. for very dusty woody mixed gum containing a small proportion of drop. Good hard glassy block was bought in at 2s. 2d. per lb.

**GUM ACACIA**.—Shows a distinctly easier tone all round. It is true that most of the importers, especially of Turkey sorts, are still firm in their views, but second-hand holders seem anxious to come to terms. The nominal quotation to-day runs from 85s. for hard and glassy up to 105s. per cwt. for good soft dark sorts. The supply of *Gehzireh* gum is practically held off the market, at high rates. The quotations are nominal, at 54s. to 55s. for good quality; while for *Talca* from 45s. to 47s. 6d. per cwt. is asked. So-called insoluble *Persian* gum is in heavy supply, but the prices asked are now so high that no business can be reported; picked gum is quoted at from 25s. to 30s., sorts at from 18s. to 22s. per cwt. The arrivals of *East Indian* gums from Bombay in London have lately been very heavy, and large supplies, especially of Cawnpore and Ghatti gums, are said to be on the way to Bombay from the interior, for export to London. At auction to-day a large quantity of various kinds was offered; 14 cases of picked Trieste gum were bought in at from 13l. 10s. to 14l. for good pale, and 7l. to 7l. 10s. for grains. Of dark sorts over 150 bales were bought in. For one lot of fair pale soft quality, a bid of 86s. was made, but the owner would not accept less than 87s. per cwt.

**GUM AMMONIACUM**.—Among the 16 packages offered to-day was one case of fine picked, small to bold, pale drop, for which a bid of 61s. was refused. This lot was bought in at 70s.; good pale, but rather small drop, and siftings was bought in at 55s., and ordinary black mixed at 32s. 6d. per cwt.

**GUM (TRAGACANTH)**.—There has been a somewhat improved demand lately for ordinary qualities, and several sales

are reported at steady rates. Fine grades, however, continue neglected, first white *Persian* at 14l. 15s. to 15l., seconds at 12l. 10s. to 13l. 10s. per cwt.

**HONEY**.—Sales of *Jamaican* honey were made to-day at very lower prices, about 30 out of 84 packages offered being disposed of at 20s. 6d. per cwt. for good clean amber, 23s. for good liquid brown, and from 19s. down to 16s. per cwt. for dark and dull quality. A parcel of very fine liquid yellow honey was bought in at 37s. per cwt., a bid of 28s. being refused. Fifteen cases of fair candied *Californian* honey sold, without reserve, at 25s. to 27s. per cwt., and an 8 cwt. hogshead of dull brown *French* at 15s. per cwt. (subject to approval). Various lots of *Chilian*, *Honolulu*, and *Australian* honey were bought in.

**IPECACUANHA**.—Of *Brazilian* root 37 bales were shown to-day, of which 15 sold at slightly easier rates, the decline being about 2d. per lb. Fair sound, partly woody, realised from 5s. 3d. down to 5s.; damaged ditto from 5s. 2d. down to 4s. 10d. per lb. Twenty-one packages *Colombian* (*Carthagena*) root were bought in at from 4s. to 4s. 2d. per lb. Two bales of so-called *Trinidad* ipecac, first imported in 1892, which have since been disposed of in rummage sale, were again up to-day, and bought in at 2d.

**JALAP**.—About 200 packages of the new crop have lately arrived, the bulk of these showing good quality. Some 60 have been sold privately, and part of the remainder was offered for sale to-day, but bought in without mention of price. Privately the market is dull.

**KAMALA**.—Since the last auction sales have been made at low rates—viz., 7d. per lb. for good quality; some small business has, however, been done since at the moderate rate of 9d. per lb.

**KOLA** is reported to have been in better demand at slightly improved prices. At auction to-day about 70 packages were offered, of which 12 sold—good brown *West Indian* at 1s., fair dry at 8d. per lb., subject. Fresh kolas were bought in to-day at 6d. per lb.

**MENTHOL**.—Much lower. Six cases of fair quality sold to-day at 9s. 6d. to 9s. 9d. per lb.

**MORPHIA** has been advanced to-day by the Scotch and English manufacturers by 2d., powder being now 4s. 9d. per oz. This advance has been contemplated for some time, and but for the position of one of the makers it would probably have been 3d. or 4d. instead of 2d.

**MUSK**.—Very quiet. Of *Tonquin* pods 9 tins of first pile were offered to-day and bought in at 72s. per oz. for thin blue and grey skin, rather damp, some broken and well trimmed. One tin of small to medium old-fashioned damp second pile sold at 40s. per oz., and 6 tins of fair old-fashioned third-pile pods were bought in at 30s. per oz.

**MYRRH**.—Neglected, and offering at low rates. The large supply of 121 packages was offered to-day, but only 7 sold, fair picked, at 85s. per cwt.

**OIL (CASTOR)**.—*Italian* oil still continues to show an exceedingly firm market, from 31s. to 31s. 6d. per cwt. being quoted for best medicinal. *East Indian* oil is in rather small supply, first *Calcutta* is held at 3d. to 3¼d., second at 2½d. to 3d. per lb.

**OIL (COD LIVER)**.—Continues to tend lower for *Norwegian* oil. Most of the leading importers still quote nominally 205s. for best 1896 non-congealing, but several of them would no doubt be glad to take 200s., and one well-known brand has been sold at that price this week; the same brand not long ago realised 240s. per barrel. From Tromsø, in the north of Norway, we hear that the Finnmarken fishing for the week ending April 22 was rather poor, both on account of scarcity of fish and of bad weather. The market was unchanged with a slight demand, while holders were not inclined to reduce their quotations. Some business has been done in good pale *Newfoundland* oil in London this week at the comparatively high rate of 6s. 6d. per gallon. At auction 10 barrels good 1896 Norwegian oil were bought in. The price is said to be 210s. per barrel. Sixteen casks *Newfoundland* oil were also bought in—good pale at 6s. 6d., dark at 6s. 3d. per gallon.

**OILS (ESSENTIAL)**.—*Otto of rose* is firm, but we have not been able to obtain confirmation of the rumours mentioned



in our last issue—that considerable damage had been done to the plants by snowstorms. The price of English-distilled Oil of nutmegs is about to be considerably reduced. The makers will probably list it at 7½d. for small and 7d. per oz. for large wholesale quantities. Croton oil, on the other hand, will be dearer. It is now selling at 2d. to 2½d. per oz., and will very likely be raised to 3d. per oz. Reports from the South of France confirm what we stated last week with regard to the crops of *Rosemary* and *Thyme*. So far there has been no change in prices, but it is pointed out that this will be the third consecutive small-crop year for these articles. *Citronella* oil continues to decline. A few days ago 15 tons, in drums, were sold at 1s. 2½d. per lb., c.i.f. terms, for steamer shipment to London until end of June, and 1s. 2d., c.i.f., for ditto until end of August. Both sales were for oil standing Schimmel's test. At to-day's auctions a case of 16 bottles *Cananga* oil sold at 1s. per oz. Four cases fair pale E.I. oil of *Nutmeg* were bought in at 3d. per oz.; 6 cases of Buck's *Nlang Yang* at 5s. for gilt label, and 4s. 6d. per oz. for black label. Ten cases French *Lavender* oil described as "pure lavender of the Piedmontese Alps" are held for 6s. 3d. per lb. Dementholised Japanese *Peppermint* oil sold cheaply at 3s. 10d. per lb. Four cases of *Eucalyptus* oil (Cygnat brand) realised 1s. 8d. per lb.; several other parcels were bought in, among them *Platypus* oil (with 54.4 per cent. of eucalyptol) at 2s. 4d. per lb. Chinese oils quiet and unchanged, *Cassia* rather firmly held. Five cases *Star-anise* oil were bought in to-day.

**OPIMUM.**—The London stock is now extremely small and there are comparatively few sellers. The news from Smyrna is in favour of higher rates, but London operators seem disinclined to move in sympathy with the primary markets. Some business in fine *Persian* bricks is reported at 13s. per lb.; common qualities are quoted at 11s. to 11s. 6d. per lb. There have also been some sales of good *Soft shipping* opium at the steady price of 12s. 6d. per lb., and in manufacturing kinds small sales have been made at full rates.

**ORRIS.**—Quiet. For 16 bales good pale *Florentine* root, from Leghorn, a bid of 67s. 6d. per cwt. was refused to-day, and the parcel bought in at 72s. 6d. per cwt. Yellow sorts were bought in at 69s. per cwt. *Aden* in large supply and difficult of sale.

**QUININE.**—The market is somewhat unsettled. On the one hand, it is said that there are sellers of secondhand German bulk at 12½d. per oz.; others aver that nothing is to be had at that figure, and that small sales of *HB* and *Auerbach* brands have been made at 12½d. per oz. It appears to be a fact that a good many thousand ounces have been sold at secondhand for delivery up to the end of the year at a price rather below 13d. per oz.; but no exact details are given. At auction 15 cases of 2,500 oz. each, *Imperial* quinine, were bought in at 13½d. per oz.

**RHUBARB.**—At auction 147 packages were offered, of which only 18 sold at low prices. *Shensi*, round, good bright yellow coat, medium to very bold, partly rather light, three-quarters pinky, quarter grey fracture, at 1s. 9d. per lb.; medium size, 1s. 4d. per lb.; good small, pinky fracture, 1s. 7d. per lb.; medium flat, rather duller in coat than the round root, 1s. 5d.; round and flat mixed pickings, 10d. per lb. Fair small flat *High dried*, good fracture, 10d. to 10½d. per lb. Wormy round *Canton* (without reserve) at 7½d. per lb.

**SARSAPARILLA.**—Thirty-seven bales genuine grey *Jamaica* sold readily, sound root at 1s. 5d., damaged at 1s. 4d. to 1s. 5d. per lb. For native and grey mixed *Jamaican* 11½d. to 1s. per lb. was paid.

**SEEDS (VARIOUS).**—*Annatto seed* rather firmly held for good quality. Fifty-six packages Madras were bought in to-day, 4½d. per lb. being refused for a fine bright lot. Nine packages low West Indian sold, without reserve, at ½d. to 1¼d. per lb. For 6 bags good *Musk seed* 10d. per lb. is asked, and 5 barrels good West Indian were bought in at 1s. 3d. per lb. Ten bags so-called *Malta Cumin-seed*, from Mar-seilles, fair quality, sold cheaply at 29s. per cwt. Sales of good *Maltese* have been made privately at 33s. 6d. per cwt. A 100-bag parcel of small dusty Russian *Anise* sold, without reserve, at 18s. to 18s. 3d. per cwt.

**SENA.**—*Alexandrian* leaves are in small supply and firmly held, especially for good qualities; picked leaf is quoted at from 10d. to 1s.; broken, nominally at 5d. to

7d. per lb.; sorts and siftings at 3d. to 3½d. *Pods* are very scarce, sales being reported at the high figures of 6½d. to 7d. per lb. for good quality. *Tinnevely* leaves were represented to-day, by 90 bales, half of which sold at steady rates—medium greenish leaves at 3½d.; small to medium fair, 2d. to 2½d.; ordinary dull, 1½d. to 1¾d. per lb. Of *Alexandrian* leaves only a few bales of sorts and siftings were shown, and bought in at 3d. per lb.

**SOY** is very quiet. *Chinese* is quoted at from 10d. to 10½d. per gallon for fair quality, according to quantity.

**TAMARINDS.**—Sales were made to-day of fair *Barbados* at 15s. per cwt. For one parcel a bid of 14s. was refused.

**TEA.**—The Assam and Ceylon markets are this week indulging in quite a small boom. Common Assam and Ceylon leaf is now quoted at 5½d. to 6d., and is eagerly bought at this advance of 1d. per lb. from the lowest, and better medium teas are showing fully 1d. to 1½d. per lb. rise. Buyers in the country are apparently a little scared and fear still higher rates, and have been clearing out all old-bought teas they can get. It is a nice question whether prices have not now gone—for the present, at any rate—as far as is warranted by the figures of stocks and deliveries, and as there is certainly no occasion for prices to advance much further dealers will be wise in not stocking too heavily at the advance. Congous are a trifle firmer in sympathy, but only a trifle, and if we are not to have any useful Indian or Ceylon tea under 6d. for a time, the useful Monings and Kaisows, now showing such wonderful value from 4½d. to 6d., should be good buying.

**UROTROPINE** has been altered in price to 2s. for 50-oz. lots, smaller quantities being quoted at 2s. 6d. per oz.

**VANILLA.**—In fair supply and good demand, an advance of 2s. per lb. being paid for *Mauritius* and *Seychelles* beans, which realised the following prices:—Good to fine chocolate, partly crystallised, 5½ inches to 8 inches, 22s. 6d. to 23s. 6d.; medium to good, 3½ inches to 5 inches, 21s. to 24s.; brownish, 5½ inches to 7½ inches, 23s. 6d. to 26s. 6d.; common, 6s. to 16s. 6d. per lb. A parcel of fine dried *Ceylon* beans realised the highest price ever paid for this variety—viz., 19s. 6d. per lb.

**VARIOUS DRUGS.**—The following parcels of drugs of minor interest were offered at to-day's auctions:—For 15 bags very wormy *Japanese aconite-root*, 21s. per cwt. was asked to-day. Three bales of rather brown, dull *Paraguayan jaborandi* were bought in at 6d. per lb. Fifty-five bags *Cocculus indicus* were bought in at from 7s. 6d. per cwt. Three bags partly blocky and dull mixed *Galbanum* were bought in at 92s. 6d. per cwt., and 53 Robbins fair to good *Cannabis indica* at from 2d. to 3½d. per lb.; while a 43-lb. box of rather ordinary *Guarana* sold cheaply at 1s. 10d. per lb. Five tins partly stony *Comhage*, from Bombay, were bought in at 4d. per oz. Ten bales good clean pressed *Cuscuta-root* were bought in at 29s. per cwt. Of *Kino* only 2 cases from Bombay of doubtful quality, very woody, were offered and bought in at 40s. per cwt. Five puncheons fair bright *Lime-juice*, mixed with some sediment, sold at 1s. 4d. per gallon. Thirteen packages fair pale silky *Nux vomica* from Bombay sold at 7s. 6d., common broken at 4s. 6d. per lb. *Orange-peel* in large supply but quite neglected. A few lots of common *Malta* sold at 1½d., and 2 cases sweet yellow *Jamaican* without reserve at 1d. per lb. *Quassia*:—148 cwt. of quassia wood in logs sold without reserve at 90s. per ton. *Tonca Beans*: 3 cases foxy *Pará* beans realised from 4d. to 7d. per lb. For fair picked slightly frosted 1s. 10d. to 2s. is required.

**VERMILION.**—Still advancing; the stock of *Chinese* in London is very small and in the hands of one owner. Sales of Wingkat brand have been made this week at 2s. 7d. per lb.

**WAX (BEES).**—In good demand, at full prices, especially for *Jamaican*, of which 60 packages realised from 8l. for brown up to 8l. 10s. for fine yellow. Good *Australian* brought 6l. 17s. 6d. to 7l. 5s. Bright orange (*Spanish*) realised 6l. 15s.; 11 casks fair yellow mixed *Rangoon*, 6l. per cwt. Of *Madagascar* wax 258 packages sold at from 7l. for fine bright orange down to 6l. 5s. for dark brown.

**WAX (JAPAN).**—Good pale squares sold to-day at 36s. per cwt.



## Heavy Chemicals.

An improvement, though only slight, in the general demand for heavy chemicals is to be noted this week, together with more numerous inquiries for miscellaneous chemicals. The latter are, for the most part, for early shipment in consequence of the reopening of navigation in various quarters. Values are, on the whole, fairly steady, stocks, as a rule, are not excessive. *Bleaching-powder* and the *Alkali products* are moving steadily at unchanged rates. *Sulphate of copper* is dearer, current quotations standing as follows:—Anchor 19l., Liverpool 18l. 15s. to 19l., but there is no change to report as regards July-August delivery. Shipments of this product are lower. *Cream of tartar* is also slightly higher, crystals being quoted 97s. 6d. to 100s., and powdered 100s. to 103s. 6d. per cwt. *Benzoles* are dull but steady, whilst *Carbolic acid* is lower, 39 to 40 per cent. being now 6½d., and 34 to 35 per cent. 6½d.; 60 per cent. crude, 1s. 11d. *Pitch* decidedly easier. *Miscible wood and solvent Naphthas* are a trifle lower, the former being about 3s. 5d. and the latter 2s. 11d. *Saltcake* firm and in fair request. *Sal ammoniac* unchanged, as are also *Bichromates of potash and soda*. *Alum and sulphate of Alumina* continue to move briskly, and the demand for *Baryta products*, with the exception, perhaps, of the peroxide, shows no sign of diminution at present. *Hyposulphite of soda* in demand. *Green copperas* maintains a firm position. *Recovered sulphur* selling freely. *Yellow prussiate of potash* tends lower. *Chlorates of potash and soda* steady.

## The Liverpool Drug market.

Our Liverpool correspondent, writing on April 29, says that the demand for Arabic sorts of *Gum acacia* has become exceedingly quiet, buyers being disinclined to follow the article at the advanced rates now ruling, and the sales are fragmentary; medium kinds are also slow, but without quotable change in value. *Beechwood* is in good demand; sales have been effected of *Chilian* at 7l. 10s. to 7l. 17s. 6d. per cwt. The advance anticipated in the price of *Cream of tartar* has taken place, first white crystals being now held for 100s per cwt. *Kola nuts* continue to meet with a ready sale as they arrive, and sales during the week have been made at about ¼d. per lb. advance on late rates, good dry realising 4½d. to 5d. and dry 7d. per lb. *African ginger* is moving steadily, 480 bags being sold at 20s.; nothing is now procurable at this price, holders wanting 21s. and upwards. *Castor oil* is without any new features, the price of good seconds Calcutta being maintained at 2¾d., first-pressure French at 2½d., and Madras at the same figure. *Turpentine* a shade better for sellers, 22s. 6d. being paid. There has been rather more movement in *Chilian honey* for the week, large sales having been made for export, but without materially affecting spot values. *Quillaia bark* is very firmly held, and an advance is talked of by the importers. For some *Guinea grains* 14s. per cwt. was bid at auction but declined, holders wanting more money.

## The Hamburg Drug-market.

Our Hamburg correspondent writes, on April 28:—"The position of our drug-market has undergone few changes since last week. *Arsenic* is steady: white refined, in lumps, at 45m. to 46m.; yellow, 46m. to 47m. per 100 kilos. *Acid tartaric* is firm at 286m. to 295m. per 100 kilos. *Acid citric* steady; pure quality costs 265m. to 275m. per 100 kilos. *Camphor (refined)* very dull; the refiners have reduced their prices again, and now ask 375m. per 100 kilos., while there are second-hand sellers at 365m. and even at 360m. per 100 kilos. *Cantharides* are quite unchanged; prime Russian at 430m. per 100 kilos. *Balsam copaiba* a little firmer; best quality is quoted from 2.70m. to 3.40m. per kilo. *Balsam Peru* is very firm; holders ask 15½m. to 16m. per kilo. *Cascara sagrada* is quiet, and offering at 42m. per 100 kilos. *Chlorate of potash* is steady, at 86m. to 86.50 per 100 kilos. *Cream of tartar* shows an upward tendency, and is quoted to-day at 210m. to 225m. per 100 kilos. *Cubeb* without business; prices vary from 60m. to 78m. per 100 kilos. All *acacia gums* show a very firm market, but we have no very eager buyers at present. *Jalap* is quiet and unchanged; Vera Cruz quoted 80m. *Menthol* is dull; spot is offering at 29.30m. per kilo, forward at 24m. per kilo. *Oil (cod-liver)* steady, but without much demand; 1895 non-congealing oil is quoted at 200m. per barrel; 1896, 205m. per barrel. *Peppermint oil* is quiet; H.G.H. offers

at 9m. to 8½m. per lb.; Japanese oil easier at 10m. per kilo. *Citronella oil* is a shade lower, and can be bought at 3.60m. per kilo. *Star anise oil* is dull at 20m. to 21m. per kilo. *Quicksilver* is very quiet at 138m. to 140m. per bottle. *Quinine* is quiet and without demand; best brands are quoted at 39m. to 40m. per kilo. *Linseed oil* is in very strong demand for spot delivery, in consequence of the Harbinger Mills having been stopped suddenly by a strike. Spot barrels have fetched 39½m. per 100 kilos.; forward delivery remains quiet.

## New Companies and Company News.

**HOMŒOPATHIC MANUFACTURING COMPANY (LIMITED).**—Capital 1,000l., in 5l. shares. Objects: To carry on the business of chemists, druggists, homœopathic, chemists, medical booksellers and publishers, opticians, specialists, scientific-instrument makers, &c. The first subscribers (each with one share) are:—David H. Whitehead, 134 Bury New Road, Manchester, broker; Fred Butterworth, 41 Manchester Road, Castleton, near Manchester, drysalter; Henry Gould, The Mount, Higher Broughton, Manchester, physician; Henry Mills, 35 Blackfriars Street, Manchester, homœopathic chemist; Mrs. Kate Whitehead, 134 Bury New Road, Manchester; John Brinley, 20 Leamington Street, Manchester, chemist and druggist; Arthur W. Noon, 28 Brown Street, Manchester, agent. The regulations of Table "A" in most cases apply. Registered office, 35 Blackfriars Street, Manchester. Henry Mills is to act as the manager.

**THE NORTH BRITISH CHEMICAL SYNDICATE.**—Capital, 30,000l., in 1l. shares, 10,000 of which are 5-per-cent. cumulative preference shares. The objects of this company are to adopt and carry into effect an agreement made with Percy Frederick Holmes and W. C. Holmes & Co. to acquire by purchase or otherwise inventions for the production of chemicals, and other inventions which may be thought of advantage to the company, and to carry on the business of manufacturers of and dealers in chemicals, and apparatus for the production of chemicals, engineers, &c. The first subscribers are:—Alex. Moore Shaw, chartered accountant, 166 St. Vincent Street, Glasgow; J. Leslie Doran, clerk, 12 Windsor Terrace, Kelvininside, Glasgow; Arthur Stirling Brown, clerk, Milverton Lenzie, near Glasgow; J. Murray Jack, clerk, 36 Dalhousie Street, Glasgow; Albert Louie, clerk, 45 West Nile Street, Glasgow; David Dunn, clerk, 20 Park Circus, Glasgow; George James, clerk, 17 Ayton Road, Pollokshields, Glasgow. Registered office, 45 West Nile Street, Glasgow.

**JOHANNIS (LIMITED).**—The directors have declared a dividend for the second half-year of 1895 at the rate of 8 per cent. per annum, making a total dividend of 7 per cent. for the year.

The shares in the chemical-works, formerly Dr. H. Byk, in Berlin, which concern was recently converted into a limited company, have been issued at a parity of 129m. for the 100m. shares. The total capital is 1,500,000m. The style of the new firm is "Chemische Werke, vorm. Dr. Heinrich Byk." Drs. Heinrich and Siegmund Byk will continue to give their services to the new company.

**ARMY AND NAVY STORES.**—The trading-account of the Army and Navy Stores, submitted to the shareholders at the annual general meeting on Monday, stated that the stock of stationery, drugs, &c., in stock on January 28, 1895, was valued at 47,417l. 13s. 4d., and the purchases during the year amounted to 291,477l. 10s. 9d. The sales during the year of stationery and drugs were 334,379l. 18s. 9d., and the value of the stock on February 3, 1896, was 50,493l. 15s. 3d.

**UNJUST WEIGHTS.**—Edward Pearce Spier, chemist, pleaded guilty, at the Cheltenham Police Court last week, to having five weights unjust. Inspector Stangoe gave evidence of having tested the weights. The Chairman remarked that if there was one person who should ensure having true weights it was a chemist. He would be fined 2l., with 7s. costs.





### Memoranda for Correspondents.

*In letters for publication correspondents are requested to express their views as concisely as possible.*

*Correspondents should write on one side of the paper only, and devote a separate piece of paper to each subject of inquiry.*

*The name and address of the writer should accompany all communications, with, if desired, a distinctive nom-de-plume.*

### Anti-cutting.

SIR,—There is one assertion in the letter of your correspondent, Mr. James Reid, that we must protest against—viz., "That this movement is not an honest effort to help the chemist."

We have the advantage of being on the committee of proprietors of the Proprietary Articles Trade Association, and we can assure Mr. Reid that there is a strong desire amongst owners that those who distribute their goods should be fairly remunerated for their services. Indeed, we believe that the pioneer of anti-cutting, Mr. Elliman, was solely induced by this consideration to introduce his system. Doubtless there are some who are only guided by self-interest, but we firmly believe that these are very few in number.

Yours truly,

Malmesbury Road, Bow, STEPHEN SMITH & CO.  
April 27.

*Lux* (66/66) writes in support of the views expressed last week by Mr. James Reid, of Dumfries, that "this [anti-cutting] movement is not an honest effort to help the chemist." That the movement should have received the support of any hundred retailers, "*Lux*" thinks, ought to be a matter of regret to anyone who cares anything for his own independence, honour, and skill in business. He then proceeds to give the history of cutting to prove the statement that the present movement is not an honest one. It was the owners of "proprietary" who made the cutting movement possible to the stores. They induced larger and larger orders by offers of larger and larger discounts, until it came about that those places could get terms from the suppliers altogether beyond the possibility of the ordinary retailer—such terms, in fact, as permitted them to cut the goods down to, and sometimes below, the prices which the retailer had to pay the self-same supplier.

When the retailer awoke to that fact, he awoke to the fact also that he might just as well wake up a little more, and sell goods of his own manufacture which he knew to be equal in most cases, and superior in some, to the articles of the advertising supplies of the cutters. In time the suppliers found that the tool was two-edged, and some of them began futile attempts to win again the lost pushers of their advertised articles by venturing on schemes of anti-cutting, under the pretence of protecting the chemist, their legitimate customer, on consideration that he would make it his business to push their particular article. Now they are beginning to find that the tool is pointed also, for of late, and quite naturally, since they have taught the cutters their business and exposed to them the depth of their margin of profit, these suppliers are finding that the big cutting-stores prefer to make their own preparations, not stopping at proprietaries, but going into sundries, confectionery, medicated lozenges, and general pharmaceutical preparations.

So now the fouler of the nest finds he has to build a new one, and is trying to do so in combination. Happily, "*Lux*" thinks, the thing has gone too far, and the real culprits are being found out. Let the retailers be wise enough now to stand upon their own abilities and make business for themselves instead of being men hucksters. Let them join no movement which is advanced professedly for their benefit by owners of proprietaries, nor help them, either by signing agreements, advertising their goods, or in any other way. For, apart from the surmise that the present Anti-cutting

Association is an illegal organisation, coming under the law of conspiracy, it aims actually and only to benefit the prime movers and not the retailers.

SIR,—Where does Mr. James Reid's little joke come in? He quotes Mr. Glyn-Jones as saying that "the number of retail traders who have joined was between 400 and 425. If the movement had rested entirely with the retail traders nothing would have been done."

And Mr. Bird (a manufacturer) "that chemists were recognising that it was absolutely necessary to ally themselves with the grocers in this matter."

Now, Sir, it is at any time a pathetic thing to rob a Scotchman of his joke, even when, as Mr. Reid assures us in the present instance, it has been assimilated without the aid of a surgical operation; but really the joke contained presumably in the above juxtaposition of sentences is so little apparent, that I am constrained either to believe it *non est* or to a conclusion but little complimentary even to my duller Southern intelligence.

If the joke (conceding that there is one) consists in the fact that chemists fight shy of combination, it is a particularly grim one, and one for which we pay dearly enough in all conscience. Why should a principle that is thought good, and even necessary, in other professions and trades be inapplicable, and even ludicrous, when applied to our particular business? Nobody expects either manufacturers or grocers to be actuated by purely Platonic motives, but that is no reason for refusing to co-operate with them for a definite advantage to ourselves.

Mr. Reid's contention that no chemist can trade upon a profit of 20 per cent. and live is entirely beside the mark. No business is made up altogether of patents and proprietary articles, and, even if it were, surely a profit of 20 per cent. is a good deal in advance of what chemists are getting at present upon these goods. I venture to think that Mr. Reid's assertion that "this movement is not an honest effort to help the chemist" transcends the limit of fair criticism. This scheme may not be on lines that Mr. Reid can approve of, but surely that does not prevent its motive from being honest and worthy.

Yours truly,

Nottingham, April 29.

J. HENRY BELL.

Under the title "Don't Sell without a Profit," *T. K.* (66/87) submits what he calls his first attempt at a poem. The poetry is saddening, as the sample will show, but it is not so bad as the morality inculcated. A customer comes to buy a box of certain advertised pills "one glorious day in May."

The chemist looked up slyly,  
As he softly stroked his beard,  
I think you are very foolish,  
You also have been snared.

The chemist, however, the poet goes on to intimate, is quite free to recommend the pills if he can get a good profit on them.

### British Trade with Egypt.

SIR,—Your remark "that the figures which underlie Mr. Rodd's report [quoted in your editorial of this week] are by no means perfect" is inadequate to convey a sense of their inaccuracy. Having compared them with the Blue-book entitled "The Statistical Abstract for the Fifteen Years from 1879 to 1893," I will, with your permission, state the result. Assuming that the values of annual imports into Egypt are given in Egyptian pounds, I have added one-fortieth to each amount to reduce it to pounds sterling. This calculation is based upon your statement that the Egyptian pound is equal to about 20s 6d., and is borne out by the fact that the "Post-Office Guide" gives 9.75 E. pounds as the equivalent in remitting of 10l. sterling; but I note that "*Whitaker's Almanack*" gives a somewhat different value—20s. 3½d. The declared values of the British and Irish produce, and of the foreign and colonial produce exported to Egypt, are given on pages 105 and 87 respectively, and of the total exports from the United Kingdom to that country on page 51 of "*The Statistical Abstract*." The sum of the former amounts



equals the latter exactly, but Mr. Rodd's figures differ widely from these.

Declared Value of	1887	1889	1891	1893
Total Exports of Foreign and Colonial produce to Egypt, page 105 .. ..	88,681	70,192	86,426	70,404
Ditto of British and Irish produce, page 87 .. ..	3,013,569	2,949,720	3,789,238	3,363,74
Total Exports to Egypt, page 51 .. ..	3,102,250	3,019,912	3,875,634	3,434,149
Imports from United Kingdom into Egypt, as given by Mr. Rodd .. ..	3,291,176	2,600,186	3,511,361	2,750,199

The increase in the value of the total exports to Egypt between 1879 and 1893 is from 2,208,105*l.* to 3,434,149*l.*, or more than 55 per cent.

I need not dwell on the wide difference between losing one-fifth of our business in nine years and increasing it by more than 10 per cent in the same period.

Yours obediently,  
J. F. BROWN.

Dover, April 25.

[Mr. Brown's letter is a particularly striking instance of a fact which has always been a stumbling-stone to economists—the habitual discrepancy between statistics relating to the same subject, but made up in different places. It is safe to say that if the figures of the British Board of Trade relating to our exports to any country in a given year were compared with the figures of the statisticians of that country relating to the imports there from the United Kingdom, the two sets of statistics would not be found to agree in one single instance.—ED. C. & D.]

#### The Testing of Lemon Oil.

SIR,—The estimation of the aldehyde citral by reduction to its corresponding alcohol geraniol, acetylation, and saponification put forward by Mr. Garnett in the paper printed in your last issue, page 593, as well as the estimation of citronellal by the same means, I have made the subject of experiments for some time past. There are, however, several points in connection with the simple process suggested in his paper which make its application open to doubt. No check experiment is first made by Mr. Garnett to ensure the absence or determine the amount of alkali-fixing bodies in the lemon oil, such as one makes with peppermint oil in the process for the estimation of menthone. I have found, moreover, as a result of many experiments, that after acetylation, without reduction, of lemon oil, and most thorough washing, as much alkali-fixing power indicated as would be equal to 6 or 7 per cent. of citral in the original oil. The body that effects this absorption may be an alcohol, or an acid formed by the reaction between the aldehyde citral and acetic anhydride (Perkin's synthesis). Whether the percentages of citral obtained by Mr. Garnett, and calculated by him from the saponification equivalent of the ester of the alcohol geraniol formed by reduction, are in reality due to citral only or are the equivalents of other alkali-fixing bodies formed by the action of acetic anhydride on the aldehyde, requires proof. If it could be shown that quantitative formation of an acid by the reaction between citral and acetic anhydride occurred, this method might be available for the determination of citral. I have placed the results of my experiments both with lemon and citronella oils at Mr. Garnett's disposal, in order that he may clear up the difficulties that appear to be indicated by them. Whether the estimation of citral as a means of determining the value of lemon oil has the significance that has recently been attached to it is very doubtful. The high percentage of citral in some lemon oils, which show by other characters unmistakable sophistication, and the advance in price of lemongrass oil (which yields about 60 per cent. of citral!) are suspicious circumstances.

Southwark Street, S.E., April 29. JOHN C. UMNEY.

#### A Coincidence.

SIR,—I notice in your current issue you comment upon the similarity of a process communicated by me to the

*Pharm. Centralh.* for making sp. sapon. kal., Hebra, and one by Mr. C. E. Smith in the *Amer. Ph. Jour.* That two processes so much alike should appear so close together is indeed remarkable; but I have never heard of Mr. Smith's method till now, nor seen the paper in which it was published. If you will again refer to my article in the *Pharm. Centr.* you will see that it is stated to be adopted from a formula for making sp. sapon., *Germ. Pharm.*, without heat, given in that paper. Owing to a misprint you state the solution of caustic potash to be 5 per cent., whereas it should be 50 per cent. Yours faithfully,  
239 Oxford Street, W., O. G. GERSTL, Apotheker.  
April 27.

#### Insurance of Chemists' Stocks.

We asked last week for information as to the rates charged by different offices for the insurance of chemists' stocks. We have received the following:—

Mr. A. Oglesby, Barnsley, writes:—Some years ago the Yorkshire Fire Insurance Company charged me 5*s.* per 100*l.* On increasing the amount of my policy, I asked three to tender, and they all said 2*s.* 6*d.* per 100*l.* I am at present insured in the Norwich Union Fire Insurance Company for 2,000*l.*, and have to pay exactly (2*l.* 10*s.*) what I had previously to pay to be insured for 1,000*l.*

#### Old Pharmacies on the Continent.

SIR,—Being greatly interested in the history of pharmacy, I have perused with much pleasure your article on the "Love Apotek" at Aarhus, in Denmark, and cannot but express my appreciation of your thus drawing attention to an historical event in the annals of pharmacy. Mr. Reimers and Mr. Dam deserve the best thanks of all lovers of pharmacy-lore for their interesting contribution. The accounts you publish from time to time in the *C. & D.* of old English pharmacies and drug-houses will no doubt prove most valuable to any future compiler of a history of pharmacy, English and general, and at the same time will tend to produce among the members of the craft a more widespread interest in the doings of their colleagues of ancient days.

Having in view the importance attaching to communications of this kind as quasi-historical documents, I may be allowed to point out to you that the statement as to the "Love Apotek" at Aarhus being the *oldest pharmacy in the world* is not quite correct. It appears that in Germany and the northern countries pharmacy was dissociated from medicine in the early middle ages. The first official mention made of the "apotheker" we find in the records of the following towns:—Treves 1241, Hamburg 1265, Muenster 1267, Angsburg 1285, &c. Although it would be rather difficult to trace any of the existing pharmacies in the towns mentioned back to these remote times, there is at least one—viz., the "Raths Apotheke" at Hildesheim, in the province of Hanover—whose history dates back to the beginning of the fourteenth century. First mentioned in 1318 as the property of the Chapter of the Cathedral, this pharmacy in 1365 was taken over by the municipality, and transferred to a building which occupied the site of the present Raths Apotheke. The building as it stands now, which was erected, if I remember rightly, in the seventeenth century, is a very substantial and spacious structure, in which, as we learn from an inscription over one of the side doors, there were several rooms provided where the court of aldermen held their meetings. The "Apotheke zum Mohren," at Nuremberg is another instance. This pharmacy can be traced back to 1442. In 1578 it was moved into the house, corner of Königstrasse, which it still occupies. This ancient building, after having undergone during the last century some alterations, which had entirely destroyed its character, has quite recently been "restored" in the original style, and now appears as it did some 300 years ago. One of the pharmacies at Wittenberg can look back on an unbroken record of four centuries. It was at one time owned by Lucas Cranach, the celebrated painter, and contemporary of Martin Luther. The "Loewen Apotheke" and the "Apotheke zum Koenig Salomo," both situated in the principal thoroughfare of Leipzig, were licensed some time in the fifteenth and sixteenth centuries, and there are several other pharmacies which can boast of an unbroken record of more than three centuries.



Some of the above dates are taken from Peters's *Aus pharmaceutischer Vorzeit* (J. Springer, Berlin). This highly interesting book also contains some curious illustrations of the interior of ancient pharmacies, reproduced from the original prints, published in 1470; 1486, 1500, 1536, 1548, and others.

I remain, Sir, yours faithfully,

121 Oxford Street, W. K. HEBBELER.  
April 28.

[We did not say that the Love Apotek was the "oldest in the world." In fact, in our issue of January 19, 1895 (page 69), we referred to the old pharmacy at Wittenberg, founded in 1504, which Mr. Hebbeler mentions in his interesting letter.—ED. C. & D.]

## MISCELLANEOUS INQUIRIES.

Back numbers containing formulæ, educational or other specific information can be obtained from the Publisher.

N.B.—All queries should be accompanied by the business card of a subscriber, or the address label from THE CHEMIST AND DRUGGIST wrapper. We destroy anonymous letters. We do not answer queries of the kind here dealt with by post. We ask that separate queries shall be written on separate sheets of paper.

55/41. J. Y.—Weed-killer.—We repeat for the general good a formula which we have previously published, as we have many similar inquiries at this season:—

White arsenic .. ..	1 lb.
Washing-soda (sod. carb.) .. ..	2 lbs.
Water .. ..	6 galls.

Dissolve the soda in the water by boiling; then add the arsenic, and continue to boil until dissolved. Colour with aniline blue or sulphate of copper. The product should measure 5 galls.

A teacupful of this solution is sufficient to mix with a pailful of water for watering garden paths.

61/18. E. T. Palmer.—The plant sent is that of the so called field madder (*Sherardia arvensis*), an annual or biennial herb belonging to the Rubiaceæ, and closely allied to the woodruff. It is common in fields and waste places in this country, flowering from April to October, and is also found in Northern Europe, Africa, and Siberia. No useful properties of any kind have ever been attributed to the plant, and nothing is recorded of any poisonous property. The poisoning of sheep feeding in a field where this plant grew is in all probability due to other causes.

64/26. Ajax.—For Drying Powders, such as tartaric acid and bicarbonate of soda, wholesale houses utilise the spare heat of their steam-boilers, by having a drying-room immediately over or in proximity to the boiler. This room is generally fitted up with spar shelving, or shelves made of well-galvanised wire netting, upon which the various articles to be dried are placed. The temperature available is generally from 80° to 120° F., but there must be good ventilation to get the lower temperature. The actual form which the drying-chamber should take depends upon the nature of premises and the heat available. In absence of a steam-boiler, hot air, generated by heating a portion of a pipe ending in the chamber, or a coil of steam-pipes at the base or side of the chamber, are commonly employed; but it is obvious that we cannot profitably discuss such matters in these columns. The point which we may make clear to you is that chemical powders should be dried at a gentle heat—i.e. under 100° F.—preferably by a current of warm air. As you are to work on a large scale, we think it will pay you to get a chemical-engineer to examine your premises, and keep you right with the insurance companies, as any measure which you adopt may affect your fire-policy.

60/55. Ulexine.—In the last volume of the C. & D. you will find two formulæ for Cod-liver-oil Emulsion with Hypophosphites—viz., August 24, 1895, page 319, and September 14, page 437—and there is scarcely a volume in which you will not find formulæ. See also pages 238 and 416 of the current volume.

60/23. U. I. S. (Delhi).—(1) Your first question is one upon which we cannot advise you. (2) Knife-powder is crocus-powder or powdered emery unmixed. These you can buy through the ordinary trade channels. (3) You cannot possibly make tartaric acid on a small scale to compete with the large makers. Have you the argol to start from? (4) The tanning and currying of leather are subjects quite outside the objects of this journal. We are always willing to assist subscribers in pharmaceutical matters and others related thereto, but you ask for "full particulars," which would fill the whole of the paper.

63/63. B. & S.—There is nothing better than rennet for curdling milk. It gives a nice, solid curd, and you cannot always get that with rennet-substitutes. You will find rennet-powder cheaper than the essence in the long run.

63/69. Jaborandi.—We should like to see your formula before attempting to advise you.

63/16. W. M. H.—(1) Glass-etcher's Solution is a mixture of fluoride or silicofluoride of ammonium and fuming sulphuric acid, equal parts. (2) "A good prescription for tar-water cough-mixture" you will find in C. & D., August 24, 1895, page 319. (3) A mixture of red lead and borax is highly spoken of for exterminating cockroaches. You should try it, although sometimes it fails.

63/25. Liverpool.—Sulphur Skin-lotion—See C. & D., December 21, 1895, page 909.

63/13. L. M.—(1) The objection to your White Embrocation is that it contains both ammonia and acetic acid, so that you lose the good of both, and make a bad preparation. Try the following modification:—

Sapo. mollis .. ..	3viij.
Spt. terebinth. .. ..	3xij.
Liq. ammon. fort. .. ..	3v.
Camphor. .. ..	3v.
Lin. aconiti .. ..	3ij.
Ol. eucalypti .. ..	3ij.
Spirit. .. ..	3x.
Adipis .. ..	3viij.

Dissolve by a gentle heat the soap, lard, and turpentine, add the ammonia gradually, and stir in the camphor and eucalyptus dissolved in the spirit and liniment.

Dilute with 3 parts of water for strong, and 5 parts for mild, embrocation. (2) You cannot add anything to the hair-dye to make it more permanent. That is entirely a matter of exposure of the hair to light.

64/55. J. H. B. (Ontario).—In the book entitled "Chemistry and Cod-liver Oil," by Dr. F. Peckel Möller, you will find a description of the Norwegian process for manufacturing cod-liver oil. The book may be obtained from Schieffelin, of New York.

61/65. R. Baker.—We cannot trace any formula for Vinum Belladonnæ, but you cannot be wrong in making it the same strength as the tincture—1 oz. of the leaves to 1 pint of sherry.

62/5. Ferrum.—Ferric salts should not be prescribed along with potassium iodide, as you know. Syr. ferri protochlor. or ferri sulph. gran. would be efficient substitutes for liq. ferri perchlor. in the circumstances.

61/71. Country Chemist.—We do not know what "blue ashmeal-powder" is.

67/22. H. G. S.—We have seen a decoction of logwood with copperas used as Hatters' dye, but we imagine that a solution of nigrosin in weak ammonia is generally used.



66/72. *Lewis Roberts*.—"E. I." at the end of "ol. ricini" stands for "East Indian."

67/24. *J. Harris*.—You can do best in regard to photographic supplies by writing to those who advertise in this journal.

67/30. *Opoponax*.—(1) We are really astonished that you should ask, "What is meant by solution of soap with benzine"? when the particulars about how to make it are given on page 602 last week; also that you should ask such a question as the third with such an article as that on pages 592-3 in your possession. (3) Pills for Piles and Gravel.—See *C. & D.*, September 28, 1895, page 509.

67/36. *Cachet*.—If you have been in the habit of selling headache-powders, and wish to replace the paper-wrapping by cachets, you must be prepared to educate your customers regarding the object of the cachets. That is the main point which you have to consider. As to the use of cachets, there is no doubt at all that physicians and chemists in this country have really begun to appreciate their value, and that they are rapidly becoming popular. Of course, like all new things, it takes time to get people to appreciate the advantages of getting a powder put up ready for swallowing; some folks will prefer the old messy way. You overlook the fact that cachets have been in use on the Continent for many years, and in France powders are seldom given any other way. You must judge of the merits of the various cachet machines for yourself.

60/45. *H. O. D.*.—The following are formulæ for Tobacco-perfumes:—(1) Tincture of valerian, 11 parts; rectified spirit and tincture of Tonka-bean (1 in 8), of each 2 parts. (2) *Cascarilla*, 3vj.; valerian-root, 3ij.; Tonka-bean, 3j.; macerate in 32 oz. of rum for a week, and filter. (3) Essence of musk, 3j.; heliotropin, 9j.; essence of apricot, 3v.; spirit, 3xiv.

67/3. *J. P.*.—Weak gum-water is used for making gold-powder into Gold Ink.

67/9. *J. B. B.*.—Startin's Ointment or Pomade.—Various formulæ are in use. See *C. & D.*, March 24 and 31, 1894, pages 436 and 468.

63/43. *Apprentice*.—The borax precipitates the cocaine. Ask the prescriber to put boric acid in the place of the borax.

62/30. *A. P.*.—"Ferri carb." is sometimes ferri peroxidum and sometimes ferri carb. sacch. We think the latter in your case.

57/49. *R. Leighton*.—A Brilliantine thoroughly "nourishing to the roots of the hair" is a misnomer. You can only nourish the roots by internal treatment, or by stimulating the local circulation, so that the roots may have a larger supply of food brought to them, and we do not see how you can do that in a brilliantine. You may replace the spirit in ordinary brilliantine with a 1-in-10 rectified-spirit tincture of cantharides, making the preparation thus:—

Tr. cantharid.	..	..	..	..	3ss.
Glycerin.	..	..	..	..	3ij.
Ol. amygdal.	..	..	..	..	3ij.
Olto rosæ	..	..	..	..	gtt. ij.

M.

To be applied to the scalp with gentle friction and brushed for five minutes after.

56/8. *J. B. (Demerara)*.—We hope to republish the articles in book form in the course of this year. Due notice of the date of publication will be given.

45/61. *Vet.*.—Composition for Smearing Horses' Bits to quiet them when restless.—This is as near the formula as we can get from your small sample:—

Ol. picis	..	..	..	..	3vj.
Ol. anisi	..	..	..	..	3j.
Ol. origani	..	..	..	..	3j.

M.

60/9. *Impertinence*.—The flavour of Turkish tobacco is a matter of cultivation, soil, &c. We are not aware that the principle which gives it has ever been isolated or that it can be applied to other tobaccos.

62/7. *Radix*.—Carnauba Wax is imported from Brazil, and is obtained from the leaf-buds of *Copernicus cerifera*. It has a high melting-point, and is chiefly used for glazing surfaces, such as wall-paper and coloured papers of all kinds. It is specially adapted for making furniture-paste, owing to its high melting-point.

135/39. *A. P.*.—Vanadium Salts make black solutions, especially with infusion of galls. We have seen the same thing happen with iron salts.

TO OTHER CORRESPONDENTS.—We have still several pages of replies to dispose of.

## INFORMATION WANTED.

The Editor invites, on behalf of inquiring subscribers, postcard replies to the following:—

43/1. "Belehema," for flavouring sauces: where obtainable?

66/34. Who are the makers of 1½-litre glass douches with indiarubber tubing and metal fittings?

## Next Week.

### Monday, May 4.

*Society of Chemical Industry* (London Section), Chemical Society's Rooms, Burlington House, at 8 P.M. "The Reproduction of Colour by Photography," by Mr. E. J. Wall; "Artificial Silk," by Messrs. Cross and Bevan.

*Royal Institution of Great Britain*, at 5 P.M. General Monthly Meeting.

*Society of Arts*, John Street, Adelphi, W.C., at 8 P.M. "Applied Electro-chemistry," by Mr. James Swinburne. Lecture II., "Caustic soda and bleaching-powder—Copper-refining—Zinc."

### Tuesday, May 5.

*Royal Institution of Great Britain*, at 3 P.M. Mr. O. Vernon Boys on "Ripples in Air and on Water."

*Society of Arts*, John Street, Adelphi, W.C., at 8 P.M. "Australia's Prospects in British Markets," by Mr. James F. Dowling.

### Wednesday, May 6.

*Midland Chemists' Assistants' Association*, Exchange Rooms, Birmingham, at 9 P.M. Annual General Meeting.

*Society of Arts*, John Street, Adelphi, W.C., at 8 P.M. "High Explosives and Smokeless Powders," by Mr. Hudson Maxim.

### Thursday, May 7.

*Chemical Society*, Burlington House, at 8 P.M. Papers to be read:—"Luteolin," II., by A. G. Perkin; "Morin," Part I., by Hermann Bablick, Ph.D., and A. G. Perkin. Ballot for election of Fellows.

*Royal Institution of Great Britain*, at 3 P.M. Mr. W. Gowland on "The Art of Working Metals in Japan."

### Friday, May 8.

*Royal Institution of Great Britain*, at 9 P.M. Professor Silvanus P. Thompson on "Electric Shadows and Luminescence."







